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A Lecture
ON
HEPATOPTOSIS, GLÉNARD'S DISEASE, AND MOVEABLE KIDNEY.

Delivered at the Medical Graduates' College and Polyclinic on Feb. 12th, 1906,

BY W. WATSON CHEYNE, C.B., LL.D., F.R.S., F.R.C.S. ENG., &c.,
SENIOR SURGEON TO KING'S COLLEGE HOSPITAL; PROFESSOR OF CLINICAL SURGERY, KING'S COLLEGE, ETC.

GENTLEMEN,—Mobility of various abdominal organs is a condition which is fully recognised as occurring in a certain number of instances, but I doubt if its significance, gravity, and frequency are adequately appreciated. The symptoms that may arise in connexion with these conditions are so various and so vague and are associated with such disturbance of the nervous system that the sufferers are often put down as neurotics and their ailments as fanciful exaggerations. Nevertheless, I believe that in many of these supposed hysterical cases the troubles are very real and are due to abnormal descent of one or other or all of the abdominal viscera. This mobility may affect one or several of the abdominal organs. Those chiefly concerned are the kidney, the liver, the stomach and intestines, and the spleen. I shall refer shortly to the first three.

MOVEABLE KIDNEY.

This is the most common and most generally recognised condition and it may occur alone or in association with general mobility of the abdominal organs. Most often the latter is the case. The right kidney is the one chiefly affected. The condition varies from slight mobility to a freely moveable or "floating" kidney. It may occur suddenly; that is, the patient may have been making some violent exertion or been subjected to some severe strain and then have pain in the side, usually the right, and on examination descent of the kidney can be detected. Here there is probably a true dislocation of the organ. Or, again, a patient consults a surgeon on account of some or other of the symptoms mentioned below and on examination a moveable kidney is found. Or, again, a moveable kidney is found during the course of an abdominal examination without any symptoms pointing in that direction having been present. In the two latter cases the mobility of the kidney may have existed for a long time and the pedicle has no doubt gradually stretched as time went on. In some cases it may be induced and it is certainly aggravated by injudicious application of corsets; it may occur where a patient rapidly emaciates; or after distension of the abdomen as in pregnancy, where the abdominal walls become lax for a time; and it is commonly present in cases of hepatoptosis and enteroptosis.

In connexion with mobility of the kidney we may have a great variety of symptoms. A slight degree of mobility or a very marked degree such as that known as floating kidney may give rise to no symptoms. The intermediate cases where the kidney can descend into the loin but not further are the important ones. To some extent this is because the organ comes to lie in a position where it is subject to pressure from corsets, waist bands, &c., or is affected by flexion of the body. In such cases the patients complain of dragging pains in the back and side and general abdominal discomfort, and these troubles are still more marked if the mobility of the kidney is associated with hepatoptosis or enteroptosis. These symptoms are probably due to the weight of the organ and consequent dragging on the pedicle. More serious symptoms may, however, occasionally arise. For example, the kidney may from time to time press on the duodenum, causing temporary obstruction, with vomiting, pain, and a group of symptoms known as Dietl's crises, and if this is frequently repeated or long continued it may lead to dilatation of the stomach and general dyspepsia. A variety of troubles may also arise in connexion with the kidney itself. It tends to become congested from time to time from obstruction to the vessels, while kinking of the ureter may also take place, leading to attacks of intermittent hydronephrosis. This latter condition, whether associated with kinks in the ureter or malposition of the ureter with reference to the pelvis, &c., chiefly occurs where the kidney is moveable.

Much dispute exists as to how far the symptoms of which these patients complain are really due to the mobility of the kidney or are essentially of a neurotic character. This question can hardly concern the severer cases (Dietl's crises, intermittent hydronephrosis, &c.) which are too definite to be neurotic, but has special reference to the cases where there are merely pain in the back and side and a general sense of discomfort. Some look on the local and general symptoms in these instances as essentially neurotic in character and the mobility of the organ as of comparatively little moment, while others regard the mobility as a serious condition and the various symptoms as being directly due to it. The point is a very important one, as the line of treatment adopted by different practitioners depends on the view they take.

The treatment of moveable kidney is either to ignore it or to attempt in various non-operative ways to keep it in its place and to relieve the symptoms or to fix it by operation. As to the first suggestion, that of ignoring it, so long as the condition is giving rise to no symptoms whatever and has only been found accidentally on examination I presume all are agreed that it is best to ignore it and in no way to draw the patient's attention to it. Where, on the other hand, very marked symptoms are present—e.g., Dietl's crises, intermittent hydronephrosis, hæmaturia, &c.—I have no hesitation in saying that operative treatment is essential, either fixation of the kidney alone or, where intermittent hydronephrosis occurs, fixation combined with such plastic operation on the ureter as may be considered necessary, or in bad cases even nephrectomy. It is the intermediate cases which are open to doubt. That there is often a large amount of neurosis in these cases is certainly true but I see no reason for doubting that the pains of which the patients complain are real; indeed, the wonder is that in some cases the kidney can move as it does without causing pain, and it is probable that it is the constant dragging pain and other symptoms which induce the neurotic condition.

Various methods of treatment are employed to remedy this looseness of the kidney and at the same time to improve the general neurasthenia without operation. For example, Weir-Mitchell treatment, followed by change of air and scene, has been much employed with varying success. Various pads and supports are fitted on to keep the kidney in place. Attempts are also made to increase the fat, &c., and so to get back the fatty pad. None of these methods are, however, really satisfactory and pads especially are very prone to become displaced in the movements of the abdominal muscles or so lifted up that the kidney slips down beneath them and is thus no longer supported and may, indeed, become injuriously pressed upon by the pad itself. Better than pads are probably Gallant's corsets, of which I shall speak later.

These attempts, however, frequently fail to relieve the patient completely and, where the symptoms continue to be constant and severe, the patient may still ask that something should be done. Then arises the question of nephrorrhaphy. Some physicians object to this operation *in toto*, their chief arguments being that the kidney may become loose again, that a good deal of pain may be set up by the operation, and that the whole symptoms may speedily recur, the recurrence being ascribed to, and accepted as a proof of, the essentially neurotic character of the trouble. These objections, however, are hardly sound. That the kidney has frequently become loose after nephrorrhaphy may have been true in the early days of the operation, but this is merely a matter of technique and it is really easy enough to fix the kidney satisfactorily. The essential points in the operation are, I think, firstly, the free removal of the fatty capsule, so that the kidney can come into close apposition with the fascia over the abdominal wall; and, secondly, free stripping up of the capsule of the kidney, so as to leave a raw place for adhesion. That pain may be left after the operation is also correct, but is, I believe, due in part to inclusion of dorsal nerves in the ligature and in part to the position in which the kidney is usually fixed. It is very difficult, indeed almost impossible, to fix the kidney as high up as it normally lies and usually a considerable part of it is left in the

lumbar region below the ribs. In that situation it is subjected to the pressure of the corsets and bands for the clothing and much pain may thus be caused. It is, therefore, most important to fix the kidney as high up beneath the ribs as possible. For this purpose I believe that a free incision along the lower border of the ribs and parallel to them is best. It should be of considerable length; the peritoneum is pushed forwards and the kidney fixed high up. That the whole symptoms may recur when the patient gets up is also true, but I believe that the explanation is not that the symptoms associated with moveable kidney are essentially neurotic, but that in these unsuccessful cases the kidney condition is only part of a general enteroptosis and therefore the fixation of the kidney only does very little towards remedying the trouble; in fact, does not touch the essential part of it. Hence, while I advocate fixation of the kidney by operation in suitable cases where other means have failed and where the symptoms are sufficiently severe, I think that this question of enteroptosis ought to be looked into carefully before proceeding to operation and if there is evidence of hepatoptosis or enteroptosis these must be attended to before the kidney is dealt with. In any case of nephrorrhaphy the corsets recommended in speaking of enteroptosis should be worn afterwards.

HEPATOPTOSIS.

Abnormal mobility of the liver was at one time looked on as very rare but in reality it is not at all uncommon and is probably present to a greater or less degree in most cases of enteroptosis. It may also be responsible for many cases of vague abdominal discomfort, while when fully developed it produces most serious symptoms which will be presently referred to. In these cases the healthy liver becomes moveable and hangs down into the abdominal cavity as far as its attachments will allow and at the same time it undergoes marked rotation. It is freely moveable and may be replaced by manipulation. We must distinguish this condition from a simple "dislocation of the liver." A liver may be dislocated to some extent from its normal position by tight corsets, waistbands, spinal deformities, especially kyphosis, pleuritic effusions, &c.; but it merely lies lower than normal and does not undergo the rotation and change in position which occur in the other cases, and may not, therefore, give rise to serious trouble.

It is most important to bear in mind that the wandering liver does not merely descend from underneath the ribs, but, as it comes down, its descent is resisted towards the middle line, especially about the level of the junction of the right and left lobes, and thus the heavy right lobe continues to come down and to render this possible the whole organ has to rotate forwards and to the left. Thus the sinking of the right lobe leads to a corresponding rise in the left lobe and the whole organ becomes more vertical as well as being rotated; indeed, the liver may become so vertical that the left lobe in bad cases may be in the right hypochondrium, while the right lobe may reach to the pelvis. The hollow thus left under the right side of the diaphragm becomes filled up by the intestines. This displacement of the liver is a very important point to bear in mind, because it cannot be remedied by merely pushing the organ up; the rotation must be undone at the same time.

Another condition of the liver which is also not uncommon and which may or may not be associated with wandering liver is where the edge of the liver, generally of the right lobe, is flattened out and this thin layer of liver may extend downwards for a considerable distance and is generally marked off from the body of the liver by a deep furrow in which is much fibrous tissue. Various states of the liver may be found in which furrows caused by the pressure of the ribs or pillars of the diaphragm are present, but the above is the chief form which gives rise to symptoms and which therefore need be referred to. It is essentially due to wearing tight bands round the waist, either with or without corsets. With tight-lacing the edges of the ribs instead of sticking out press in and produce a furrow and the formation of fibrous tissue at that part. Thus a portion of the edge of the liver may be cut off from the main mass more or less completely by fibrous tissue. The lobe thus formed may become much thinned and flattened out and thus spread over a considerable portion of the right side of the abdomen. This flattening is probably effected to a great extent by the pressure of tightly laced corsets.

The important condition, and the one to which I particularly wish to refer, is that of wandering liver. Normally, the liver is held up by the tissue between a portion of the posterior part of the upper surface of the liver and the under surface of the diaphragm (the fixed part). This forms a sort of triangular space which is surrounded by the peritoneum as it is reflected from the upper surface of the liver to the under surface of the diaphragm. The peritoneum around this space is called the coronary ligament and on each side the thicker double layers of peritoneum are called the triangular ligaments. Then we have the suspensory or falciform ligament running from the back of the anterior abdominal wall in the middle line from the level of the umbilicus upwards to the upper surface of the liver. Its function is not so much to suspend the liver as to prevent the right lobe sliding too much downwards and to the right. It is loose when the stomach is empty but becomes tense when the stomach is full and the liver is pushed towards the right side. The round ligament which passes in the lower border of the suspensory ligament to the under surface of the liver has also apparently much the same function. A very important agent in keeping the liver in place is also the connexion with the vena cava and it is this which chiefly prevents the total descent of the liver and leads to the rotation. In fact, the rotation of the liver, to which reference has been made in cases of hepatoptosis, occurs around the vena cava. Among the other factors which keep the liver in its place is the negative intrathoracic pressure. Once the liver is displaced downwards from the diaphragm it is sucked down still more by the atmospheric pressure and the intestines pass up between it and the diaphragm and add to the troubles of the patient.

Causation of hepatoptosis.—Those who have written on this subject have for the most part come to the conclusion that two factors generally come into play—viz., (1) some anatomical (? congenital) abnormality by which certain livers are already ready to wander on suitable impulses; and (2) mechanical impulses, which, however, are not sudden but long-continued in their action. The supposed anatomical predisposition consists in some looseness or weakening of the fixation arrangements. Too long a coronary ligament has been suggested but not proven. Others think that the connective tissue between the vena cava and the spine may be looser than normal and allow of greater mobility. Others, again, look on a congenital shortness of the round ligament as the chief agent. Langenbuch holds that this condition begins, not as a descent of the liver from the diaphragm but as a rotation of the liver forwards around the vena cava. This increases the tension of the round ligament and if the rotation is continued that ligament brings the liver nearer to the umbilicus, especially if the ligament is congenitally short. As the dislocation proceeds the suspensory ligament also becomes stretched. That the vena cava plays an important part is evidenced in some cases by disorder of the venous circulation. As the liver rotates around the vein it pulls on it, shortens the intrathoracic portion, and may lead to such interference with the venous return that a caput Medusæ may form at the upper part of the abdomen. The impulses which induce the descent of the liver are very various and more or less long-continued. They are not sudden and severe injuries, otherwise we should expect the condition to be much more frequent than it is and more common in men than in women.

Among the most important agents in leading to hepatoptosis are relaxation of the abdominal walls, as after repeated pregnancies and the wrong use of corsets and bands around the waist in connexion with tight-lacing or the support of heavy clothing. These points will be specially referred to in speaking of enteroptosis and the remarks there made apply equally to the production of hepatoptosis. Other causes which lead to descent of the liver in cases predisposed to it are marked kyphosis and various conditions of the thorax—e.g., constriction of the thorax, pleural effusions, long-continued cough and whooping-cough, emphysema of the lungs, &c.; also heart troubles, giving rise to increased size and weight of the liver, and so on.

Dr. A. Keith, in his excellent lectures on Enteroptosis,[1] states that enteroptosis is due to the upsetting of the balance between the inspiratory and expiratory muscles. He looks on active contraction of the crura of the diaphragm as the most important factor. According to him there are two causes of displacement of the liver and the stomach—viz., relaxation or paresis of the abdominal muscles which maintain the shelf on which these organs are supported and

[1] THE LANCET, March 7th (p. 631) and 14th (p. 709), 1903.

constriction of the abdominal cavity by clothing, or contortion by disease, preventing the forward rotation of these organs during respiration. Corsets, by pushing in the ribs, make the action of the costal fibres of the diaphragm more vertical and thus more active in pushing down the viscera.

Symptoms.—This condition of the liver is associated with enteroptosis, but apart from the symptoms due to that condition the dragging of the liver and the pressure caused by it in its new position must give rise to very great discomfort to the patient. The symptoms are often distractingly vague and as this condition is always associated with enteroptosis the indefinite symptoms which are there present are met with here also. Among them may be mentioned various gastric troubles. As the result of the displacement of the liver the pyloric orifice of the stomach may become pressed upon or kinked, with the result that dilatation of the stomach may ensue with various dyspeptic symptoms, vomiting, meteorismus, &c. The intestines which crowd up behind the liver may also become pressed on from time to time and much flatulent disturbance is thus caused. In addition, the weight of the liver and its presence in a faulty position give rise to much general abdominal discomfort, dragging pain, &c. Jaundice and gall-stone colic may also arise from kinking of the bile-ducts and gall-stones are not uncommon. Symptoms may arise also as the result of paresis of the intestine and circulatory disturbances.

The general symptoms are often extremely vague and it may be impossible to focus the trouble at any one part. There is pain practically all over the abdomen but it seems to radiate from the epigastric region. In a case on which I operated the pain at the lower pain of the abdomen was described as a dragging pain, while that at the upper part was more of a burning character, extending through to the back and upwards into the shoulders. The latter pain was much worse on lying down than on standing up. Reflexly there may be general nerve disturbances, such as hysterical attacks, giddiness, &c. There are frequently also marked loss of flesh, obstinate constipation, and sometimes mucous colitis.

The examination of the patient should be conducted both in the recumbent and in the erect posture. If the examination is limited to the recumbent position it may be that in the milder cases the liver completely recedes beneath the ribs and the condition is overlooked. When the patient is sitting or standing, however, the liver may be felt descending below the ribs or even forming a large tumour in the abdomen to the right side of the middle line, sometimes extending as low as the pelvis, and capable of being moved upwards and towards the right. The surface of this tumour is smooth, its sharp border may be detected, and also in some cases the gall-bladder. On percussion a very important point in marked cases is that the lung resonance merges into the intestinal resonance behind as the result of the intestines passing up behind the liver.

As regards the cases where a flattened lobe is formed that only occurs in grown-up women and there is a history of long-continued constriction of the waist, either with or without corsets, worst in cases where no corsets are worn. The general symptoms are much the same as those just mentioned. In these cases the portion of the liver which is affected may be so thin as to produce no evidence of dulness on percussion and the edge may also be missed on examination. In fact, the more solid portion of the liver coming down beneath the ribs at each inspiration may be looked upon as the ill-defined margin of the liver.

Treatment.—The treatment of hepatoptosis is a very difficult matter. Usually it consists in a rest cure and in the employment of abdominal belts or bandages. These belts are of very doubtful value and this to some extent is due to the fact that they are applied while the patient is in the erect posture, that they do not come low enough, and are too tight at the upper part. Attempts have been made to support the liver by corsets or belts applied while the patient is in the recumbent position, especially tight around the pelvis, sometimes in addition with pads over the iliac fossæ, and loose at the upper part, the idea being to crowd up the intestines so as to diminish their drag and also to utilise them as a pad to support the liver and kidney. In mild cases a considerable amount of comfort may be obtained in this way and the patient may be content with the result, but in the more severe cases the relief obtained is comparatively slight. Hence the question of some possible operative measure has to be considered and I have recently in two cases made an attempt to fix the liver in its normal position by means of stitches and in both cases, at first at any rate, with remarkable relief to the patients. On looking up the literature I find that a few operations of this kind have been done but they are very few and apparently have not attracted much attention. In most of the cases in which the operation has been done benefit is said to have resulted.

The principle of the operations which I have done was to replace the liver in its normal position and to try to promote adhesions between it and the diaphragm. The replacement of the liver is sometimes a little troublesome unless one bears in mind the double deformity—namely, the descent of the organ and its rotation forwards. In replacing it, therefore, the first step must be to rotate it backwards and to the right, and then, making sure with the finger that there is nothing between it and the diaphragm, to push it upwards and backwards into its normal position. The second aim of the operation—namely, the fixation of the liver in its normal position—is obtained in two ways. In the first place, it is desirable to get as broad an adhesion between the liver and diaphragm as possible and this I did in my cases by sponging the upper surface of the liver with undiluted carbolic acid so as to set up a certain amount of peritonitis and effusion over the greater part of the surface. With the view of holding the liver in its place while adhesion occurred several silk stitches were passed between the upper surface of the liver and the diaphragm. In the second case I first introduced a couple of silk stitches running from left to right high up on the upper surface of the liver, carrying them under the capsule of the liver for a distance of about one and a half to two inches in each case. One of these stitches was placed near the suspensory ligament and the other as far to the right as possible. The two ends were then passed through the surface of the diaphragm, taking hold of the muscular coat, and when these stitches were tied the liver was for the time retained in position. In addition, one or two vertical stitches were passed under the capsule in a similar manner towards the lower margin of the liver, the ends being brought out above and below the costal cartilages immediately over them, and these stitches were tied over the cartilages. Lastly, the free edge of the liver was stitched to the peritoneum and muscular walls of the abdomen along the greater part of its course. This fixation by stitches must be carefully and elaborately done because the liver is such a heavy organ that unless a good adhesion is obtained it will in all probability very soon break loose.

As regards the subsequent treatment, the patient should be kept in bed in the recumbent position for about six weeks and before she is allowed to sit up should be fitted with corsets which are laced up tight below and loose above so as to hold up the intestines. It may also be advisble to place pads over the iliac regions beneath the corsets so as to hold up the intestines still further, but these are not absolutely necessary if the corsets get a good hold of the lower part of the abdomen. These corsets will be again referred to in speaking of enteroptosis.

The suggestion has been made that the round ligament should be divided because it is held by some to play an important part in pulling the liver downwards and forwards. I did not do this, but in another case I should certainly examine the state of matters as regards this ligament and it could, of course, be perfectly easily divided if it were thought necessary.

The results in the two cases which I have had were in the first instance very good and in the last case, where greater care was taken in the procedure, the liver seems, for the present at any rate, to have retained its position. In this case, which was combined with marked general enteroptosis, I also stitched up the pyloric end of the stomach and the hepatic flexure of the colon to the under surface of the liver; but I did not deal with the moveable kidneys nor with the colon on the left side. When last seen the patient was complaining of discomfort and dragging pain on the left side, especially when and after the bowels act. This seems to be more especially referable to the descending colon and the loose left kidney. Whether these should be fixed also or whether suitable corsets would remedy matters it is difficult to say. I have not as yet been able to induce her to come into hospital again to have corsets fitted.

The conclusion I have at present come to as regards operation in cases of hepatoptosis is that, where it is necessary, careful stitching of the liver, with the subsequent use of Gallant's corsets, is all that is advisable in the first instance. Subsequent fixation of kidneys, &c., may be felt

for future consideration. Where combined with marked enteroptosis further procedures to be mentioned presently may be required.

ENTEROPTOSIS.

The condition of descent of the alimentary tract, or enteroptosis, also often spoken of as Glénard's disease, is not uncommon and chiefly affects the stomach and the large intestine. It is frequently associated with moveable kidney and sometimes with hepatoptosis, probably more frequently with a slight degree of hepatoptosis than is quite realised. The inciting causes of this condition are various but the following are the two most important—viz., distension of the abdomen as in repeated pregnancies with consequent flaccidity of the walls and the management of the feminine clothing, especially the erroneous use of corsets. Hence it is that this condition is comparatively rare in men as compared with women. A pendulous state of the abdomen and separation of the recti is a very important factor. In these circumstances the intestines lose their natural support and are actually dragged down because no vacuum can be left. This drag will also tell on the liver and kidneys and thus a general descent of the abdominal organs is brought about. As regards the management of the clothes, the chief factor is the weight of clothing which is hung round the waist. The use of corsets is often blamed as the essential cause, but, while tight-lacing is no doubt a frequent source of trouble and may lead to flattening out of the right lobe of the liver, stretching of the omentum, &c., corsets when properly used are not without value. The great advantage of corsets is that they help to protect the abdomen from constriction by the tapes and bands used in suspending the nether garments. Where no corsets are worn and the garments are kept on in this way these bands and tapes are a fruitful source of trouble and probably do as much harm as tight corsets. Ladies who give up the use of corsets must suspend their garments over the shoulders. Apart from tight lacing the chief objection to corsets is their wrong application, especially in cases where there is a tendency to descent of the abdominal contents. Corsets are usually put on while the patient is in the erect posture and they are apt to be drawn too tight at the upper part. The former is a very important point in patients with a tendency to enteroptosis. If a patient suffers from hernia the rule is that before applying his truss he shall lie down, replace the hernia, and apply the truss while in the recumbent position; and the same rule should hold good in regard to putting on corsets in cases with a tendency to enteroptosis. If the corsets are put on and tightened up in these cases while the patient is in the erect posture the abdominal organs are hanging down and held in that position, and when the additional weight of the petticoats, &c., is added they are still more pulled down and the condition consequently aggravated.

The symptoms are of a similar character to those of hepatoptosis but on the whole they point more to the gastro-intestinal tract. Among these are chronic dyspepsia, pains in the epigastric region and between the shoulders and over the abdomen generally, chronic constipation often very marked, mucous colitis, often a marked neurasthenic condition, and loss of weight and strength. The whole condition is often most difficult to make out and the cases are frequently classed as abdominal hypochondriasis. The statements of the patient are very often inconsequent and so confused that one can make nothing out of them. The shape of the abdomen is very characteristic. Gallant[2] has made curves of the abdomen in these cases which show that while in the healthy abdomen in the erect posture without any clothing the point of maximum protrusion is above the umbilicus, in Glénard's disease the maximum protrusion is well below this point and there is a hollow above. In examining the abdomen in these cases he first measures the waist with the corsets and clothing on and then, having removed them, applies a band around the waist in the same position as the narrowest part of the corsets, tightening it up till the measurement is the same as before undressing. He is thus able to see what the exact change in shape is as influenced by the clothing and he finds a very remarkable increase in the protrusion of the lower part of the abdomen in these cases when the clothing has been put on. In the recumbent position in cases of enteroptosis the point of greatest prominence is above the umbilicus, while normally it is below. Beyond the general pendulous condition of the abdomen and its shape there is nothing much to be made out on examination, unless in cases where the liver, or kidneys, or spleen are also moveable.

As regards the treatment of Glénard's disease, Gallant lays down rules for the rest cure and for the use of corsets which he has devised and to which I have previously referred. His principle as regards the use of corsets is, in the first place, to allow the prolapsed viscera to resume their natural position by gravity, laying the patient upon her back in order that the organs may return to their proper position, this being facilitated by rubbing or stroking the abdomen. Secondly, while lying on the back, she is measured for a corset which must fit closely over the hips and suprapubic region, but must afford sufficient room above the umbilicus for the replaced colon and stomach. Thirdly, when putting on the corset the patient places it around her waist, lies down upon the bed or couch, flexes her knees, and raises her hips, so as to further the visceral replacement and, while in this posture, fastens the corset, beginning from below upwards. Fourthly, in lacing the corset two strings are used, one beginning at the bottom and lacing up to the first eyelet below the waist line, and this lace must be drawn as tightly as can be borne; the second begins where the lower one leaves off and is laced up to the top and must never be drawn tight. Any tendency of the corset to ride upwards indicates that it has not been laced tightly enough below the waist, or that it has been laced too tightly above, or that the corset is too large. With this corset Gallant states that belts, binders, and pads can be done away with. In some cases pads may be placed in each iliac fossa below the corsets, especially where the patient is spare. In others a broadish band may be tightly buckled around the lower part of the corset.

Various surgical operations have been suggested in these cases but they are not always satisfactory. Gastroplication has been suggested, but its value is very doubtful. Gastro-enterostomy has also been employed with temporary advantage. Suturing the prolapsed stomach to the abdominal wall has been done with relief in some cases. Shortening the gastro-hepatic omentum, thus leaving the stomach mobile, is said to have done good. In my case I not only fixed the liver but also attached the hepatic flexure of the colon and the pyloric end of the stomach to the under surface of the liver. The subsequent course of the case rather implies that the splenic flexure of the colon might with advantage have been fixed also, but that would mean a fresh incision with consequent prolongation of the operation. Fixation of the liver itself has been already mentioned. Suture of the abdominal walls where the recti are separated, thus relieving the weakness of the abdominal wall and the pendulousness of the abdomen, has also had good results.

Of these various measures, in cases where there is no hepatoptosis I should say that shortening the gastro-hepatic omentum and suturing the abdominal walls and the subsequent use of Gallant's corsets would be the most satisfactory method of procedure. Where hepatoptosis is present the liver should also certainly be fixed. The question of fixing the kidneys or colon might be left till the result of the former operations and of the use of the corsets is seen.

[2] International Clinics, vol. i., fifteenth series, 1905.

LONDON HOSPITAL MEDICAL COLLEGE.—The following sums have been received during March for the Endowment Fund of this College: Anonymous, through the Hon. Sydney Holland, chairman of the London Hospital, £500; Mr. E. P. Thompson, £100; and Mr. Martin Sutton, £5 5s. In addition the anonymous donor has promised a further sum of £1000 provided an additional sum of £5000 be obtained by August 1st from others. It is earnestly hoped that by the kindness and liberality of those who know the London Hospital Medical College and the excellent work carried on there the required amount may be forthcoming by that time.

THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The sixty-second annual meeting of the American Medico-Psychological Association will be held at Boston, Massachusetts, from June 12th to June 15th inclusive. The address of welcome will be given to the association by Curtis Guild, Governor of the Commonwealth of Massachusetts. A number of papers will be read and a symposium on dementia will be held. On Jan. 16th the members of the council of the association held a meeting in New York City, where resolutions expressive of the regret of the association at the death of Dr. Emmet Cooper Dent, the late secretary, were directed to be forwarded to the family of Dr. Dent.

The Lumleian Lectures
ON
TABES DORSALIS.

Delivered before the Royal College of Physicians of London on March 22nd, 27th, and 29th,

BY DAVID FERRIER, M.D. EDIN., F.R.S.,
FELLOW OF THE COLLEGE; PROFESSOR OF NEURO-PATHOLOGY IN KING'S COLLEGE, LONDON; PHYSICIAN TO KING'S COLLEGE HOSPITAL; AND PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, BLOOMSBURY.

LECTURE II.[1]

Delivered on March 27th.

MR. PRESIDENT AND GENTLEMEN,—In health the centrifugalised deposit from the cerebro-spinal fluid contains scarcely any cellular elements beyond an occasional endothelial cell and perhaps from one to three lymphocytes in a field with a magnification of 400 diameters. In certain diseases the cellular elements are present in excess. In acute microbic affections of the cerebro-spinal meninges, as by staphylococcus, pneumococcus, and diplococcus intracellularis, a leucocytosis occurs in which the leucocytes are of the polynuclear type. On the other hand, in certain chronic affections of the meninges—syphilitic, tuberculous, &c.—an excess of leucocytes also occurs. These are of the mononuclear type—in other words, there is a lymphocytosis. It has been shown by Widal, Sicard, Ravaut, and others, and their observations have been confirmed by my own and Purves Stewart's investigations, that in tabes, as well as in general paralysis of the insane, from the earliest to the latest stages there is a marked lymphocytosis of the cerebro-spinal fluid. I have in several instances relied on this lymphocytosis as establishing the diagnosis of general paralysis before there were any abnormalities of the pupils or other physical signs characteristic of the disease. In a case of tabes or general paralysis, instead of two or three as in the normal state, one may count a hundred or even several hundred lymphocytes in the field of the microscope. At first sight this lymphocytosis would seem to confirm the views of those who ascribe the disease to a syphilitic affection of the meninges, either generally, or of Nageotte's meningeal root sheath, or of the posterior lymphatic system of the spinal cord, as maintained by Marie and Guillain. But lymphocytosis occurs in other affections in which meningitis, syphilitic or otherwise, plays no part. Thus it has been found in Landry's paralysis, in the subacute combined degeneration of pernicious anæmia (Purves Stewart), and in herpes zoster (Sicard). Lymphocytosis cannot, therefore, be regarded as pathognomonic of meningeal inflammation, though no doubt meningeal inflammation would accentuate it. But the most powerful argument against the syphilo-meningeal origin of the lymphocytosis in tabes and general paralysis is the fact that it does not yield in the slightest degree to the most energetic anti-syphilitic treatment (Milian, Purves Stewart). In active syphilitic lesions of the nervous system, however, the lymphocytosis that may be present tends to disappear in the course of treatment, as I show on the screen from a case of syphilitic paraplegia under the care of Purves Stewart. After a month's antispecific treatment the lymphocytes had decreased from 52·6 to 16·1 per field and the symptoms had become greatly ameliorated.

Having thus passed in review the different theories which have been advanced in reference to the pathogeny of the tabetic degeneration we have seen that there is not one which is not open to several more or less serious objections. Instead of attempting to be more precise than the facts permit I am inclined to adopt the hypothesis of Thomas and Hauser that the essential lesion of tabes is a dystrophy similar to that induced by certain toxic agents, affecting the sensory proto-neuron as a whole and manifesting itself in degeneration both of the peripheral and central terminations, of which the intermedullary are the more vulnerable, and are usually the earliest to exhibit anatomical change. The process, however, is not confined to the spinal proto-neuron but may affect among others the optic, the sympathetic, and certain motor neurons. And here I would express, in concurrence with Fournier, Mott, and many other neuro-pathologists of the present day, my belief in the essential pathological identity of tabes and general paralysis. They are, in my opinion, merely different aspects of the same polymorphic disease. One cannot say that they are the same disease so far as their clinical manifestations and course are concerned, any more than one would say that tuberculous meningitis and pulmonary consumption are the same. But the morbid process underlying both is identical. Both are tabetic or wasting affections—of the sensory proto-neuron in the one case and of the cortical neurons in the other. The essential etiological factor is, as we shall see, the same and the date of development of the two affections after the primary infection corresponds. No blind or crude primary meningeal inflammation could selectively attack only such regions—the fronto-parietal by preference—as exhibit the atrophic cortex and adherent lepto-meninges characteristic of general paralysis.

The primary lesion in general paralysis, as in tabes, is a dystrophy of the neurons and their connexions, the sclerosis, thickening of the membranes, and walls of the blood-vessels being only a secondary result of the parenchymatous degeneration. Not infrequently tabes and general paralysis are combined or succeed each other in the same individual. Clinically some of the characteristic signs, notably the Argyll-Robertson pupil, are common to both, and in both there is the same cerebro-spinal lymphocytosis. It would, in my opinion, conduce to a truer conception of the pathology of these affections if we were to call them both by the generic name tabes, classifying them specifically as cerebral tabes (general paralysis), spinal tabes (tabes dorsalis, locomotor ataxy), and cerebro-spinal tabes (so-called tabo-paralysis) according as the disease affects the brain or spinal cord, or both conjointly.

ETIOLOGY OF TABES.

Up to 1876, when Fournier first pointed out the great frequency of antecedent syphilitic infection in tabes and indicated their probable causal relationship, tabes was most commonly attributed to sexual excess or the complex of injurious influences associated with exposure to cold. The supposed causal relationship between sexual excess and tabes was probably only a damnosa hereditas from the tabes dorsalis or sexual neurasthenia of the Hippocratic writers.

Sexual excess, like all other debilitating influences, may be placed among the exciting causes and many tabetics have probably exhausted themselves in this way, but the influence of sexual excess in the causation of tabes has been greatly over-estimated and if that were the only cause the disease would certainly be much more common than it is.

Similarly as regards cold, or damp cold which Romberg thought, and which is still regarded by von Leyden as one of the principal causes of tabes, this is probably founded more on the patient's belief that his tabetic pains are rheumatic in character and that he must have caught a chill, slept in a damp bed or the like, than on any more substantial basis. When we consider how often when our etiology is at fault, not only in respect of diseases of the nervous system but many others, it has been the custom to fall back upon exposure to cold as the probable cause, afterwards proved insufficient, we may without undue depreciation call it the last refuge of destitute etiology. Like sexual excess, exposure to cold and damp would, without doubt, have an injurious influence and probably excite or intensify tabetic symptoms already incipient, so that the patient might have some grounds for ascribing his malady to this cause. But that exposure to cold by itself is a sufficient cause of tabes is, in my opinion, a mere vague assertion, supported by no accurate data, and at variance with one's daily clinical experience. A history of exposure to cold is not found more frequently in tabes than in many other affections of the nervous system.

Fournier's views as to the causal relationship between syphilis and tabes were at first received with scepticism, not to say strong opposition, in many quarters; and the frequency of antecedent syphilitic infection in the personal history of the tabetic was not regarded as more than might

[1] Lecture I. was published in THE LANCET of March 31st, 1906, p. 881. The bibliography will be given at the end of the lectures. (The lecture was illustrated by lantern slides.)

be found in other forms of disease of the nervous system. But Fournier's views soon gained powerful support, among the first by Gowers in this country and by Erb in Germany; and Erb who at one time (1878) was a strenuous opponent, is now perhaps the most eminent advocate of the syphilitic origin of tabes. It is now so generally admitted by neuropathologists, with some few notable exceptions, such as von Leyden, that syphilis is the principal cause of tabes, that it seems unnecessary to quote the data on which this opinion is based. But as the elimination of cause and effect depends for the present mainly on the statistical method and as this is liable to many fallacies, depending on the personal equation of the observers and the material dealt with, it will be sufficient to state the results obtained by Erb, whose probably unequalled experience and laborious inquiries carried out with systematic uniformity invest his inductions with exceptional value. In the most recent of his numerous contributions on this question Erb states that among 1100 cases of tabes occurring in his own practice among men of the better class—and therefore better witnesses than those living among poor and squalid surroundings—89·45 per cent., or practically 90 per cent., had had chancre or syphilis, and only 10·54 per cent., or practically 10 per cent., had not been ostensibly infected. But of these, in only 3 per cent. was it impossible to find any ground for suspecting an antecedent syphilitic infection.

Now contrast the above statistics obtained from 1100 tabetics with those of 10,000 cases, also of men of the better class, of all varieties of disease, excluding tabes. Of these only 21·5 per cent. had had syphilis, as against 89·5 per cent. among the tabetics—i.e., that syphilis was found 4·5 times more frequently among tabetics than among other patients. Similar investigations among 158 tabetic men of the lower orders give a somewhat lower percentage of antecedent syphilis—viz., 77·2 per cent., but among 1300 non-tabetics only 6 54 per cent. had had syphilis as against 93·46 non-infected.

Among women, who are less liable to tabes than men and those of the better class less so than those of the lower orders, it is for various reasons much more difficult to determine the question of syphilitic infection. But Erb found that among 15 tabetic women of the better class at least 86·7 per cent., and probably 93·3 per cent., had been infected. Among 16 women of the lower orders, however, syphilis was probable in only 68·7 per cent. and unproved in 31·3 per cent. Taken altogether a statistical inquiry among 1321 cases—viz., 1100 men of the better class gives 89·5 infected; among 158 men of the lower class, 77·2 per cent.; and among 63 women, 80 per cent. as probably infected. Essentially the same is true of general paralysis.

So far for mere statistics: the general result being that in about 10 per cent. of the cases syphilis is unproved. These 10 per cent., however, constitute the pivot round which the essential question turns, whether tabes, like diphtheria or tuberculosis, is always due to a specific infection or whether it may result from some other cause. This is not a mere academic question but one of far-reaching practical importance. Can we in the present state of our knowledge give a definite, or approximately definite, answer to it? We may perhaps do so by taking other facts into consideration besides mere percentages. It has been established, and is generally recognised, that tabes frequently follows syphilitic infection of a mild type and therefore more likely to escape notice, particularly among those in whom personal cleanliness is not a cardinal virtue. And syphilis ignota or occulta is familiar to syphilologists and dermatologists. Some noteworthy investigations on this point have been made by Hirschl the results of which are worth quoting. He found that of 63 patients suffering from gummatous affections of indubitable syphilitic origin, in only 54 per cent. was there a certain history of syphilis, in 9·5 per cent. it was probable, while in 36·5 per cent. no evidence, other than the patient's actual state, was forthcoming of syphilis, hereditary or acquired. Practically the same results were obtained in reference to general paralysis. Similar statistics to those obtained by him in reference to syphilis and tabes have been quoted by Gowers as having been arrived at by G. Pernet of University College Hospital in reference to syphilitic affections of the skin. Syphilis could only be proved in 80 per cent. of the cases. One may therefore say with justice that the syphilitic origin of tabes and general paralysis is statistically just as well proved as that of gummatous affection of the skin.

Apart from juvenile tabes, which is always syphilitic, hereditary or acquired, and which affects both sexes in the same proportion, tabes occurs most commonly among men of from 30 to 40 years of age, and on the average from seven to ten years after the primary affection. There are, however, exceptions to this rule, and I have seen it develop in a man 70 years of age, some 40 to 50 years after infection with syphilis. And there is a case on record (Berger) of a man aged 74 years becoming tabetic after syphilitic infection at the age of 70 years. Tabes at from 30 to 40 years of age is a significant harvest of the wild oats sown some ten years previously, and the classes who sow wild oats most freely are those who reap tabes most abundantly. Townspeople furnish more cases of tabes than those who live in the country, and great centres of population with their greater risks and temptations more than the smaller. Tabes and general paralysis are rare among priests, and of these only such as have had syphilis or exposed themselves to it (Bouchard).

Tabes is less common among women of the better class than among those of the lower; doubtless, as Moebius has suggested, owing to the fact that men of the better class less frequently marry while still suffering from infective syphilis. But conjugal tabes is not uncommon and most neurologists have seen examples of this. Among others, Mott has given several interesting illustrations. Almost without exception there has been syphilitic infection (from 90 to 96 per cent., Hudovenig) on one side or the other; usually the husband has infected the wife. Nonne has related a very remarkable family history. A child, aged five years, was infected with syphilis through sleeping with a syphilitic bedfellow. At the age of 18 years he became tabetic. The child infected the mother and the mother the father. Both these became tabetic. In another family, described by Souques (quoted by Erb), the father was syphilitic and became a general paralytic; the mother became tabetic, and two young daughters also showed signs of tabes—four in one family! Many similar cases might be quoted in detail, but it is unnecessary to multiply them. Syphilis, acquired or hereditary, was the common factor in all. And the question has been mooted (Lavalle, Moebius, Erb) whether there may not be a form of the syphilitic virus falling with special incidence on the spinal and cerebral centres and leading in due course to tabes or general paralysis. Thus Brosius relates the remarkable history of seven glass-blowers who were infected in the mouth from the same source in 1891. All were treated for syphilis and dismissed as cured after a few weeks of anti-specific treatment. In 1902—i.e., after 12 years—five of them came under his observation again. One was tabetic; the second had signs of general paralysis; the third was already a marked general paralytic; the fourth had Argyll-Robertson pupils and indications of so-called tabo-paralysis; while the fifth at the time of examination was still in good health. The other two had not been traced. The only common factor in all these cases was the syphilitic infection.

It has been shown by Krafft-Ebing that general paralytics are insusceptible to inoculation by the syphilitic virus. This is a negative fact of great significance and of much more importance than if the converse were true, for re-infection is always a possibility. Whether the same holds in respect to tabetics has not so far as I know been yet demonstrated, but it is more than probable. Who has ever seen a tabetic with a primary sore or even with secondary symptoms? A considerable number, both during life and after death, exhibit tertiary manifestations or traces of antecedent syphilitic lesions. But these date from the infection which preceded the tabes. Yet it cannot be said that tabetics do not run the risk of re-infection, for it is notorious that in the pre-ataxic stage tabetics frequently exhibit excessive erotic propensities and expose themselves freely to the possibility of acquiring syphilis.

Female children apart, tabetic *virgines intactæ* are *rara aves*. They are, however, not unknown. Of two of whom I have read, the one (reported by Nonne) was a tabetic girl, aged 20 years, who was infected in infancy by her mother suckling a syphilitic foster-child at the same time; the other (described by Erb), a virgin, aged 36 years, who some time previously had had a chancre on her lip.

One might multiply arguments in favour of the causal relation between syphilis and tabes but they are unnecessary. For those above related, singly and collectively, leave in my opinion little room for doubt that tabes and general paralysis are in all cases syphilitic and that tabes *per se* is as much a proof of syphilis as a gumma of the skin. Those who may be

still unconvinced and seek a more positive sign will probably have to wait till in some pathological laboratory a monkey will be exhibited inoculated with a virus of syphilitic origin (a product, perhaps, of the spirochæta pallida) showing Argyll-Robertson pupils and loss of knee-jerks and the question of the syphilitic origin of tabes will be solved by the walk of a tabetic chimpanzee.

It has been urged by von Leyden and Goldschneider as an argument against the syphilitic origin of tabes that the disease is rare among prostitutes, among whom nevertheless syphilis is rife. But it must be remembered that tabes is less common among women than men and one must also take into account the fact that as tabes is a late manifestation of syphilis it is not to be expected among those who are still young enough to ply their wretched calling. This accords with the statistics of Kron who, though he found no case of tabes among 148 young prostitutes, yet among 36 over 25 years of age found five, a large percentage enough.

Similarly it has been contended that in certain countries and among certain races tabes is rare, though syphilis is common. Thus, it has been asserted that in Bosnia and Herzegovina, in Japan, in Abyssinia among the Arabs, and among negroes tabes does not occur. But more accurate investigations have proved this assertion to be unfounded. For tabes is common enough in Japan (Nose); it is not unknown in Bosnia and Herzegovina; it is as common in Abyssinia as in Vienna (von Halban); and it certainly occurs among negroes (Collins Hecht). It may not be so common among primitive races as among those more advanced in civilisation and all that this connotes, but this is not the point. The fact that tabes only occurs where infection with syphilis is possible is the essential point in this relation. If tabes can be shown to exist or to have existed in any land or people among whom syphilis has never entered and who have never had communication with any outside syphilised world, the exclusively syphilitic origin of tabes will have to be abandoned, but not till then.

The relative infrequency of tabes among those who have suffered from syphilis—it has been variously calculated at from 1 to 5 per cent. of the whole—is no argument against the syphilitic origin of tabes. For there are many affections due to syphilis—such as aortitis, hepatitis, and orchitis—which are relatively rare. And, as Erb remarks, the fact that perhaps only 1 in 10,000 of those infected with tubercle suffers from Addison's disease does not disprove the tuberculous nature of the affection of the suprarenal capsules. But the smallness of the percentage, as well as other considerations, suggests that in addition to syphilis there may be some predisposing or other coöperating causes determining the incidence of the syphilitic virus on the nervous system, and the development of tabes either of the brain or spinal cord, or both.

Heredity, as such, plays no part in the etiology of tabes, though as we have seen juvenile tabes indicates a syphilitic inheritance.

Mention has already been made of sexual excess and cold, to which great, but as we have seen undue, prominence has been assigned by certain physiologists. The same may be said of neuropathic inheritance to which great importance was attached by Charcot. It is not more frequent in tabes than in other forms of nervous disease. Some facts, however, suggest that certain families are specially prone to develop tabes and several instances might be quoted of more than one member of the same family becoming either tabetic or general paralytics after acquiring syphilis.

Certain malformations, or developmental anomalies, such as heterotopia spinalis, have been recorded by several observers (Mott, Orr and Rows, Rebizzi) in the spinal cord of those affected by tabes or general paralysis. All these have, no doubt, their significance, but they are by no means constant nor are they even common.

The view that the substratum of tabes lies in some defect of development, or vice of inheritance, which predisposes to premature decay of the essential elements of a highly specialised tissue and reversion to those of a lower type, so that certain individuals are, as it were, predestined to tabes, reaches its culmination in Benedikt's burlesque "Tabicus nascitur; non fit"! No one who has had experience of tabes in all ranks, and has seen among its victims numbers of men of the most healthy stock and vigorous physique, can regard it otherwise than a gross libel to speak of tabetics in general as being "connective-tissue individuals" (Bindegewebs-Individuen) or "degenerates" in any true sense of the term.

Among other exciting causes of tabes injuries have been blamed and many cases of so-called traumatic tabes have been put on record. There is no doubt that in certain instances—perhaps 5 per cent.—tabetic symptoms have first made themselves manifest after injuries of the spine or other parts of the body, and the limb injured has not unfrequently been the primary or principal seat of the characteristic pains. But a critical examination of such cases of Hitzig and others has failed to substantiate the efficacy of trauma as a cause of tabes independently of antecedent syphilitic affection.

Of greater importance perhaps than any of the above-mentioned exciting or coöperating causes of the tabetic degeneration is the influence of over-exertion or of over-exertion in debilitated states of the system. The principle underlying these degenerations is that the normal equilibrium between waste and repair which characterises health is disturbed and that in consequence of the process of waste exceeding that of repair the neurons, especially those most engaged, tend to break down and show dystrophic change. Edinger and Helbing have found that in rats artificially rendered anæmic, which have been compelled to work in a treadmill, or by other device to engage in long-continued muscular exertion, the posterior roots and posterior columns of the spinal cord exhibit degenerations similar to those of tabes. These facts are suggestive and appear to harmonise well with the views of those who regard fatigue and over-exertion as the most important causes of tabes. As coöperative causes certainly but not apart from syphilis, for the same degree of fatigue and over-exertion which may excite tabes in one in whom the soil is already prepared by syphilis may be borne by thousands of others without material damage.

Edinger's "compensation theory" (Ersatz-Theorie) seems also to afford a plausible explanation of the incidence of the affection in the parts most subjected to continuous strain, the most common being the sensory apparatus concerned in coördinated locomotion and maintenance of equilibrium. Occasionally, however, as in cervical tabes, the arms for similar reasons are more especially affected and the pupils and optic nerves would in like manner probably suffer more readily than any of the other organs of special sense. So also muscular atrophies would be more prone to occur in the muscles which are most taxed, similar to the occupation muscular atrophies of blacksmiths, railway porters, and the like. Probably the same principle may serve to explain the incidence of the tabetic degeneration, in one case on the brain and in another on the spinal cord. Raymond has related an interesting narrative of two brothers, similarly constituted by inheritance, who both became infected by syphilis about the same age. The one who lived a fast life and indulged in sexual excess became a tabetic; the other who exhausted his brain in the struggle for existence became a general paralytic. Facts like these are of eloquent significance. The sensory neurons and posterior columns of the spinal cord appear to be specially vulnerable to certain toxic agents. Whether this can be explained on evolutional or developmental principles; or more mechanically by peculiarities in the lymph circulation in the posterior roots and posterior columns; or by an elective affinity of certain poisons for special structures, such as nicotine for the cells of the sympathetic ganglia, is a question for the future. But degenerations similar to those of tabes have been shown to occur from poisons introduced from without, or generated within, as well as in the course of cerebral tumours, in some more obscure manner.

In the great epidemic of ergotism which occurred in Hesse in 1880 Tuczek observed many cases of so-called ergotin-tabes in which, following the preliminary acute gastric and other constitutional disturbances, paræsthesiæ and ataxic symptoms set in, sometimes several months after the ingestion of the poison. Occasionally there was a tendency to relapse, even when no further use was made of the poisonous grain in the dietary. These ataxic and sensory symptoms were found to coincide with degenerative changes in the posterior roots and posterior columns similar to those of tabes, differing only in their acute course and in the absence of sclerotic shrinkage. Lissauer's zones, however, remained intact and there were no pupillary symptoms. Somewhat similar degenerations, but less strictly confined to the posterior columns, have been observed in pellagra, endemic in certain districts, especially in Northern Italy, and due to the consumption of poisonous maize. The degenerations in this case affect not only the posterior

columns, particularly that of Goll, but also the antero-lateral and pyramidal tracts. The exact nature and localisation of these degenerations are, however, not as yet precisely determined. So also in lathyrism, caused by the seeds of the lathyrus sativus, degenerations occur in the spinal cord, and a large number of inorganic poisons, which specially cause peripheral neuritis, also occasionally lead to degeneration of the posterior roots and posterior columns, such as alcohol, lead, arsenic, and some others.

Many of the organisms which are the cause of certain epidemic and endemic diseases, such as those of diphtheria, beri-beri, and lepra, generate toxins which not only induce multiple neuritis but also in some instances degeneration in the posterior roots and in their intramedullary processes and collaterals. Whether these degenerations are primary or secondary to the peripheral neuritic processes or whether the two are simultaneous is a question on which it is impossible at present to pronounce definitively. Further, and perhaps of greater significance in reference to the pathogeny of tabes, it has been shown that in certain cachectic states of the system such as pernicious anæmia (Lichtheim, Minnich, and others) and diabetes (Fischer, Williamson, and others), probably by the autochthonous development of toxins, degenerations occur in the spinal cord, especially in the intramedullary processes of the posterior roots, and tabetic-like symptoms ensue in the form of paræsthesiæ, pains, and ataxic disorders. But however much these toxic affections resemble tabes they are in reality only pseudo-tabetic and none of them conforms in its clinical history, course, and termination to tabes properly so called. Though weeks or even months may elapse before the poisons introduced into the system or engendered in it by the specific organisms produce their deleterious effect on the nerves and nerve centres, and though relapses may occur, there is a direct continuity between the introduction of the poison and the development of the symptoms, which run their course and cease when the virus is exhausted. In none of them do years elapse between the original infection and the commencement of the symptoms and none has the progressive character of true tabes. In none of them do the children suffer like the juvenile tabetics "who have their teeth set on edge because their fathers have eaten the sour grapes" of syphilis. The similarity, however, between the degenerations caused by these poisons and those of tabes strongly supports the hypothesis, originally advanced by Strümpell, that the tabetic degeneration is due to the action of a toxin of syphilitic origin. The tabetic degeneration is, as we have seen, a parenchymatous dystrophy, and has none of the features usually considered characteristic of tertiary syphilitic lesions. There are no cellular infiltrations, no specific vascular or gummatous changes, and it does not yield to the usual antispecific remedies. Hence it has been customary to term the lesions of tabes parasyphilitic (Fournier) or metasyphilitic (Moebius) manifestations. It may be said, however, that this is a mere *petitio principii* and that we have no certain criterion of what constitutes a syphilitic lesion. The spirochæta pallida has not yet been shown to be present in tertiary syphilis. But in any case it would be incorrect to term a state of abiotrophy (Gowers) or defective nutrition a positive lesion. For this reason Lesser's term "quartary syphilis," however appropriate to certain late manifestations of syphilis in the liver and other organs, is not strictly applicable to a condition in which parenchymatous dystrophy precedes the development of the sclerotic process.

The most probable pathogeny of the tabetic degeneration, therefore, is that it is the result of a toxin generated or conditioned by the syphilitic virus. But this is at present a pure hypothesis and one which has to surmount great difficulties. Even if, like the diphtheritic neurotoxin, it may be the product of the action of the specific organism on the proteids of the body, or set free in the elaboration of protective antitoxins, that it should take so long to develop, or lie dormant for so many years before exhibiting any signs of activity, is unlike anything that we know of organismal toxins. There is no para- or meta-syphilitic cerebro-spinal lymphocytosis as such apart from the commencement of the tabetic process and this is a fact of great importance. Dr. Purves Stewart, who has made investigations for me on this point, found that in a series of 12 cases the average number of lymphocytes in the centrifuge deposit of the cerebro-spinal fluid in secondary syphilis was 2·7, while in tertiary syphilis it was 0·9, or not more than the normal. The tertiary cases with active cutaneous lesions in progress had more lymphocytes than the others, but even these were less than the average of the secondary cases. The lowest count in tabes, however, was 45. Most were between 80 and 100, while the highest was 316 in the same relative field. And even if we were to consider it possible that there might be long years of apparently normal health in spite of the presence of some malignant toxin in the system, we have to reckon with the fact that the tabetic process once begun is essentially of a progressive nature and postulates a more or less continuous generation of the poison.

In this relation mention may be made of the researches of Ford Robertson, McRae, and Shennan. These observers have found a bacillus closely resembling the Klebs-Löffler bacillus of diphtheria in cultures from the walls of the respiratory, gastro-intestinal, and genito-urinary tracts of patients dying from general paralysis and from the genito-urinary tracts of general paralytics and tabetics during life. Rats fed on broth cultures of this diphtheroid bacillus became ill after some weeks, and when killed showed, in addition to signs of gastro-enteritis, acute degenerative changes in the cortex cerebri, resembling to some extent those of general paralysis, as well as degenerative changes in the cells of the spinal cord. These observations are of much interest, but a definite causal relationship between this bacillus and tabes or general paralysis is far from being established; for the same bacillus was found by them in the genito-urinary tract in ten out of 14 patients suffering from forms of insanity other than general paralysis.

[*Note.*—I had written this before Dr. W. Ford Robertson had delivered his Morison lectures on the Pathology of General Paralysis, now in course of publication, and I am indebted to him for allowing me to read the manuscript of those as yet unpublished and to examine some of his microscopical preparations. He holds that general paralysis is the result of a bacterial toxic infection from the respiratory and alimentary tracts owing to the impairment of the resisting power of the organism by syphilis, alcoholism, or the excessive use of nitrogenous foods. The bacillus has the cultural and morphological features, and reaction to Neisser's stain, of the Klebs-Löffler bacillus, of which it is an attenuated, or more probably a special form, to which he gives the name, bacillus paralyticans. The bacillus is polymorphic, and among other characters which distinguish it from the xerosis bacillus and Hoffmann's bacillus is its power of forming acid when cultivated in glucose broth. The leucocytes of the blood of the general paralytic, he maintains, have a greater dissolving power over these bacilli than those of normal blood, and the serum is also more lysogenic. These diphtheroid bacilli, more or less altered by lysogenic action, have been found by him and his colleagues in the catarrhal pneumonic foci of general paralytics, in the adventitial spaces of the cerebral vessels, and in the meshes of the pia-arachnoid. They have also been found in the blood, in the centrifuge of the cerebro-spinal fluid, and in the urine of the general paralytics, especially during congestive attacks. From these fluids cultures of the bacilli have been obtained when sufficient time has been allowed to destroy the phagocytic or lysogenic action of the blood. Rats infected, or fed, with cultures of these bacilli showed changes in the cerebral cortex suggestive of those of general paralysis and similar appearances were also found in a goat which had ingested them. He considers that in general paralysis there is a life-and-death struggle between the leucocytes and the diphtheroid bacilli in which the leucocytes succumb. There is a bacillary invasion. Most of those which reach the blood are digested but many escape from the circulation, either through the capillaries of the kidneys or through the walls of the cerebral blood-vessels into the adventitial lymph channels. The further disintegration of the bacilli in these lymph channels gives rise to a local toxic action in addition to the general toxæmia. The special cause of the cord lesion in tabes is probably the absorption of toxins from some peripheral septic focus, such as the bladder.

Interesting as these views are there are many difficulties in the way of their acceptance as a satisfactory pathogeny of tabes, cerebral or spinal. Eyre and Flashman as the result of examination during life of the throats of large numbers of patients suffering from different forms of insanity, as well as of the tissues of a considerable number of cases post mortem, could not determine any greater incidence of diphtheroid organisms in the throats of the insane than of the sane and found no evidence that the bacillus diphtheriæ is

more common in the throats of general paralytics than of other insane patients. Of ten cases of general paralysis examined post mortem, diphtheroid organisms were found in the respiratory tract in four; and the same number in 26 cases of other forms of insanity. They were unable to trace any causal connexion between the bacillus diphtheriæ and general paralysis of the insane.

I have the authority of Dr. W. Bulloch, one of our eminent bacteriologists, for the following remarks: Diphtheroid organisms are ubiquitous both in health and disease. They may be found in the intestines, in the genito-urinary passages, in the throat, in the nasal secretions, and elsewhere in perfectly normal people, as well as in catarrhal conditions of the respiratory tracts.

The characters given by Ford Robertson are not sufficient to distinguish his bacillus paralyticans from other forms of diphtheroid organisms. The formation of acid grown in glucose broth is not special to the bacillus paralyticans, for this is possessed in different degrees by various other diphtheroids. If diphtheroid bacilli can be found in the blood films of living general paralytics then general paralysis must be regarded, not as a toxæmia, but as a form of septicæmia ranking with relapsing fever as regards the dissemination of the organisms. If diphtheroid bacilli exist in the blood or cerebro-spinal fluid of general paralysis, they should be capable of cultivation at once without waiting for the cessation of any supposed bactericidal action, for no lysogenic action of the serum for bacilli of this group has been proved to exist. Specimens of the cerebro-spinal fluid, blood, and urine of several cases of tabes and general paralysis have been cultivated for me by Dr. W. d'E. Emery of King's College Hospital and by Dr. Bulloch, and have proved absolutely sterile. Ford Robertson emphasises the fact that he finds bacilli particularly after so-called congestive attacks. It is not improbable, therefore, that the bacilli which he has found so largely diffused throughout the tissues in general paralysis are only the results of a terminal invasion.

In order to establish any causal relation between the bacillus paralyticans and tabes it would be necessary to show that a toxin prepared from these bacilli can produce the symptoms and post-mortem appearances characteristic of tabes, cerebral or spinal. Such evidence Dr. Robertson has not produced. The experiments on rats related by him are not convincing, for it has been found by other bacteriologists that rats are almost immune to the most virulent form of the Klebs-Löffler bacillus. In presence of these and other considerations we may therefore say that the diphtheroid-bacillary origin of the tabetic toxin is at least not proven.

In the absence of any living organism capable of generating a tabetic toxin it may be that the syphilitic virus under certain conditions so affects some viscus or gland that in time it develops and continues to elaborate some toxic internal secretion which exerts its noxious influence on the nervous system. In view of the brilliant therapeutic triumphs of the present day it is not, I think, too optimistic to hope that with the progress of bio-chemistry we may yet discover the source of the tabetic toxin, its nature, and the means of neutralising it and staying its ravages. We cannot expect to repair damage already done, for intramedullary degeneration is irreparable, but we may at least succeed in arresting the disease. This not infrequently happens spontaneously; and the therapeutic measures last employed are likely to get the credit of the happy result. But beyond palliation, or the temporary relief of urgent symptoms, no remedy, chemical or physical, has as yet been discovered which materially influences the morbid process. Anti-specific treatment may be of service against possible coincident tertiary lesions, or may even cure pseudo-tabetic syphilitic symptoms; but certainly ordinary antispecific treatment exerts no beneficial influence on true tabetic degeneration and may, if carried to extremes, prove positively harmful. If, however, we believe, as I think we must, that the syphilitic virus is the *sine quâ non* in the etiology of tabes it ought to be our endeavour to combat this with all the resources at our command.

The comparative mildness of the primary constitutional symptoms in those who ultimately become tabetic would almost seem to indicate than when the syphilitic virus expends itself in severe primary and secondary manifestations there is less tendency to the subsequent development of the subtle poison which proves so disastrous to the nervous system. This mildness of the primary symptoms without doubt leads in many cases to insufficient treatment. Even the most efficient antispecific treatment, however, may fail to prevent the subsequent development of tabes in certain cases. But the facts recently brought by Fournier before the Académie de Médecine in reference to the relation between general paralysis and syphilis and its treatment are worthy of careful consideration and probation.

Fournier states that of 79 cases of general paralysis coming under his own observation in which he was able to obtain precise data as to the character and duration of the treatment to which they had been subjected, only 5 per cent. had been treated with thoroughness, while in at least 80 per cent. the antispecific treatment had been carried out in a more or less perfunctory manner. It is not enough, he says, to treat constitutional syphilis for weeks or months only. Fournier contends that mercurial treatment should be administered for at least two years continuously and intermittently for several years longer. "Treat syphilis well and you will have few cases of general paralysis," he says. The same would hold true of spinal tabes. These views deserve the special consideration of those who have most opportunities of treating syphilis in its earlier stages. If they are substantiated, tabes, both cerebral and spinal, will become one of the rarer instead of one of the most common and, it is to be feared, increasing forms of organic nervous disease.

ON THE VALUE OF A SERUM (DOYEN'S) IN CASES OF MALIGNANT DISEASE.[1]

BY ALEXANDER PAINE, M.D., B.S. LOND.,

AND

DAVID J. MORGAN, M.A., M.D. CANTAB.,

CO-PATHOLOGISTS TO THE CANCER HOSPITAL, LONDON.

DURING the past year we have undertaken an inquiry at the Cancer Hospital into the treatment of cancer by means of Dr. Doyen's serum. The results of this treatment, together with an account of the pathological investigation of the occurrence of the so-called "micrococcus neoformans" in simple and malignant growths, form the basis of this paper. We think it advisable to preface our remarks with a brief *résumé* of Dr. Doyen's work on the subject. In 1886 Dr. Doyen sent a preliminary note to the Academy of Sciences at Paris recording his observations in malignant and other growths of small, spherical, mobile bodies which he regarded as micro-organisms. In 1901 he made a communication to the Academy of Medicine in Paris and in the following year to the surgical congress at Berlin corroborating these observations, and stating further that he had isolated a micro-organism from simple and malignant growths which when inoculated into animals gave rise to neoplastic formations, and this organism he named the "micrococcus neoformans." He also regarded all these growths as the result of an infection of the body with this organism, comparable to the infective processes of tuberculosis and actinomycosis. Early in 1904 he made a second communication to the Academy of Sciences in Paris announcing the preparation of anticancerous vaccines by attenuating and exalting the virulence of this organism. He had also by means of its toxins prepared an antitoxic serum from the horse. With these preventive and therapeutic remedies combined with surgical operation he had treated 126 cases of malignant and simple growths and of these 21 he regarded as cured. Since this date he has published in his book on the "Étiologie et Traitement du Cancer" an account of 116 additional cases, 42 of which he records as cured. During the year we were afforded every opportunity of watching the progress of cases so treated by Dr. Doyen at his clinique in Paris and were very kindly supplied by him with a quantity of vaccine and serum with which we have treated some nine cases of malignant disease. Most of these cases were seen by Dr. Doyen himself who regarded them as suitable for the treatment. The treatment consisted of the injection of 10 cubic centimetres of the serum or vaccine deep into the muscles of the buttock, with strict aseptic precautions, at stated intervals. We wish

[1] A paper read before the Royal Medical and Chirurgical Society on March 27th, 1906.

to state that as we were desirous of ascertaining the therapeutic value of these remedies all the cases were treated by them alone without surgical interference. We mention this because in many of Dr. Doyen's cases the two methods of treatment were combined. The first part of the paper deals with a clinical account of the cases treated and the latter part with the results of the pathological investigation.

PART I.—CLINICAL INVESTIGATION.

CASE 1.—A man, aged 54 years, was admitted to hospital on March 17th, 1905, for recurrent epithelioma in the neck. In July, 1903, he had a growth (said to have been "cancer") removed from the centre of the back of the neck. In July, 1904, two recurrent nodules of growth appeared on either side of the back of the neck, close to the middle line and quite near to the spot wherefrom the growth was removed in July, 1903. The patient was advised to come up to the Cancer Hospital. This he did on Sept. 2nd, 1904. His general health was then good and he looked healthy. There was a healed scar in the middle line at the back of the neck. Above and on either side of this was a rounded raised ulcer with hard edges, the base being flat, with unhealthy granulations. There was a slight discharge from both ulcers. The ulcers were apparently fixed to underlying glands which were moveable on the deeper tissues. No other enlarged glands could be felt anywhere. The growth was removed on Sept. 20th and microscopically shown to be a definite epithelioma. Two subsequent local recurrences of the growth were removed in December of the same year and in January, 1905. On March 17th the patient was again admitted for a recurrent growth at the back of the neck which was painful and increasing in size. On examination, close to the right side of the occiput was a recurrent nodule of growth which was firm, hard, and red, adherent to the skin, which was not ulcerated, and deeper tissues. The growth was circular in shape and had a diameter of one inch. No glands could be felt anywhere. The patient was then given injections with Dr. Doyen's serum. During his stay in the hospital he received 15 injections from March 27th to May 8th. His general health remained good and he increased four pounds in weight. After the injections he experienced a feeling of increased tension in the growths which steadily increased to twice the size, when it was considered advisable to stop the injections.

CASE 2.—A man, aged 70 years, was admitted to hospital on March 23rd, 1905, for recurrent epithelioma in the lower jaw and glands (secondary to the lower lip). In July, 1903, the patient was operated on at St. Thomas's Hospital for "epithelioma of the lower lip," when the growth was removed. Since December, 1904, he had had a swelling under the left side of the lower jaw which had steadily increased in size. He complained of pain in the growth and earache. He had not lost flesh, his appetite was good, and he slept fairly well. There was slight dysphagia. The voice was normal. The patient was a big stout man whose general health was good. There was a slight scar on the left side of the lower lip, the result of previous operation. Occupying the whole of the left submaxillary and submental regions as far as the angle of the jaw and extending as low as the thyroid cartilage was a large, very hard mass of growth of the size of an orange, firmly fixed to the lower jaw and skin. There was no fluctuation or tenderness and the skin over the tumour was reddened. The right neck and jaw were apparently normal. Whilst in hospital he received 12 injections between March 27th and April 22nd, during which time his general health became much impaired and he gradually lost weight. The growth increased in size, softened, and broke down, leaving a cavity which discharged thin sanious fluid; and as this was followed by fever and general malaise the injections were discontinued. The disease ran its usual course and the patient died on June 2nd.

CASE 3.—A woman, aged 48 years, was admitted to hospital on March 31st, 1905, for carcinoma of the left breast. Two years previously she had a miscarriage. After this (in August, 1903) she noticed a small hard lump in the left breast which was not painful. In December, 1903, she went to the Samaritan Hospital where she was told that she had "cancer" of the breast. Nothing was apparently done then. In February, 1904, she went to the Middlesex Hospital. Operation was refused there owing to the fact that she suffered from bronchitis and emphysema and it was thought that she was not in a fit condition to withstand the anæsthetic. Since June, 1904, she had had x ray treatment at the Cancer Hospital. On admission the left breast contained a large hard mass of growth of the size of a Tangerine orange, which was not painful and which was adherent to the skin and to the pectoral muscle, though there was free lateral movement. The nipple was retracted and some enlarged glands could be felt in the left axilla but none in the supra clavicular fossa. The right breast and axilla were normal. There was no swelling of the arm. Examination of the chest showed that the patient was the subject of chronic bronchitis and emphysema. She received eight injections from March 31st to June 8th, during which time she lost two pounds in weight and suffered very much pain; this was so severe as to keep her from obtaining sleep. The pain was situated in the tumour, radiating to the shoulder and down the arm to the elbow and finger-joints. A localised erythematous rash appeared on the buttock after the third injection. At the patient's request the injections were discontinued and this was followed by a cessation of the pain. The tumour had increased in size. At a later date the breast was amputated by Mr. Charles Ryall and shown to be definite scirrhous carcinoma.

CASE 4.—A woman, aged 63 years, was admitted to hospital in April, 1904, for recurrent carcinoma of the left breast. In 1895 the late Sir William Banks operated on the patient for carcinoma of the left breast. Four years later (1899) this recurred and was allowed to remain for five years without treatment, when she came to the hospital in April, 1904. On admission there was a scar below the nipple of the left breast. The breast, nipple, and scar were all bound down in a large hard mass of growth, absolutely fixed to the skin and deeper parts. Just above and external to the nipple was a small ulcer with hard edges but with no granulations on the base. Some thickening was felt towards the axilla but no definite axillary glands. The veins over the left shoulder were dilated. No enlarged glands could be felt above the clavicle. X ray treatment was given while the patient was in hospital with no apparent result and she was discharged on June 10th, 1904. She was readmitted on Jan. 20th, 1905. Her general health was then poor. Examination at this time showed that in the scar of the amputation wound of the left breast was a small stony hard mass fixed to the chest wall. The surrounding skin was marked by radiating fissures. A mass of glands could now be felt in the axilla. The patient received five injections from March 29th to April 10th. Her general condition remained unimpaired until the last injection which was followed by severe constitutional disturbance characterised by depression, high fever, the temperature rising to 103·2° F., loss of appetite, dry brown tongue, and joint pains, an erythematous rash appearing over the lower part of the chest, abdomen, and both knees; heart failure and pulmonary congestion supervened, but under stimulants the cardiac condition improved and at the end of a week the temperature returned to normal, leaving the patient very feeble. She had lost eight pounds in weight. No change was observed in the local condition of the breast and the injections were discontinued.

CASE 5.—A man, aged 65 years, was admitted to hospital on April 12 h, 1905, for epithelioma of the left tonsil with secondary glands in the left side of the neck. About three years ago (in 1902) a lump was first noticed on the left side of the neck. As the tumour grew larger and the patient had severe pains at the top of the head of a gripping nature he went to the Throat Hospital in the Gray's Inn-road in December, 1904, and was there told that nothing could be done. On the following day he went to St. Mary's Hospital and was there told that he had an inoperable cancer. He went to Dr. Doyen at Paris early in January, 1905, and was in his hospital for just over a month. During this time he had nine injections of serum, and he said that he felt much better, the pains in the head had disappeared, and he thought that the lump was smaller. He returned to London in the early part of February and came to the Cancer Hospital on April 12th, 1905, as the lump was then getting larger and the pains in the head had returned. On admission his general health was good. On the left side of the neck was a large egg-shaped tumour situated below the lobule of the ear. Its long diameter measured nearly four inches over the surface and commenced at a point one inch below the tip of the left mastoid process, extending downwards and forwards, following the course of the sterno-mastoid muscle. Anteriorly it reached to the angle of the jaw and extended backwards for a length of nearly three inches. The tumour itself was firm and hard,

firmly incorporated with the left sterno-mastoid muscle, and fixed to the deeper structures of the neck. Its surface appeared lobulated, consisting of a larger upper mass and a smaller lower one; the skin over it was freely moveable and perfectly normal. This growth in the neck was continuous with an epitheliomatous mass on the left tonsil, the latter appearing as a growth with raised, hard, ragged edges, having an ulcerated surface and hard base. This extended downwards, laterally and slightly anteriorly to a point on a level with the middle of the epiglottis. The patient's voice was husky. He received 17 injections from April 14th to June 7th. During this time his general health remained fairly good, though he lost colour. The pain at the back of the neck, which radiated over the top of the head, gradually remitted and he expressed himself free from pain after the fourth injection. At the same time the lower end of the tumour in the neck appeared softer. After the eighth injection the pain returned with much severity and he suffered from depression. Immediately after the last injection the patient, in his own words, experienced "a feeling of suffocation and great difficulty in getting his breath; there was a feeling of swimming in the head as if the blood was rushing to the brain; he then became confused in his mind and felt as though he were dying." His face became suffused, his features swollen, and his eyes injected. The expression was one of anxiety. This was accompanied by dyspnœa, followed by cyanosis of the face (breathing being shallow, laboured, and quick). The pulse became very rapid and feeble and there was marked vaso-motor dilatation of the vessels of the skin all over the body and extremities, with general profuse sweating. Examination of the chest showed that the breath sounds were laboured and accompanied by a peculiar inspiratory stridor. This condition was followed by shivering, with coldness of the extremities. Cardiac stimulants were given and the collapse was treated in the usual way. After an hour the pulse, which had become almost imperceptible, gradually improved and the dyspnœa and cyanosis passed off, leaving the patient very weak. The skin remained injected and the features swollen for some hours. The patient slept well in the night and in the morning his temperature was subnormal. His pulse, which had reached 100 after the injection, had also become subnormal. There was absence of dyspnœa and the general injection of the skin had passed away, leaving the patient weaker. The injections were discontinued and though externally the growth did not appear to have increased very much in size an examination of the throat showed that the growth on the tonsil had extended downwards and forwards.

CASE 6.—A man, aged 61 years, was admitted to hospital on May 1st, 1905, for epithelioma of the left lower lip and cheek. Five years ago (1900) the skin of the lower lip on the left side became broken and sore (which the patient attributed to the irritation caused by smoking a clay pipe). A wart formed at this spot which was removed in July, 1902, at the London Hospital. A further operation was performed in the following October for recurrence. In September, 1904, he was again at the London Hospital when his teeth were removed but nothing was done to the growth. Since November, 1904, he had attended the Cancer Hospital as an out-patient. His condition on admission as an in-patient was as follows. On the left lower lip, occupying practically its whole length and spreading to the left angle of the mouth and the skin down to the lower border of the jaw and invading the margin of the gums to a little beyond the midline, was a ragged, raised, ulcerated mass of growth with hard edges. Its size was about two inches by two inches. No enlarged glands could be felt. The patient's general health was good; he received 16 injections from May 2nd to June 19th, his general health improved, and he gained five pounds in weight, but as the growth steadily increased in size the injections were discontinued.

CASE 7.—A man, aged 58 years, was admitted to hospital on May 26th, 1905, for an epitheliomatous mass in the neck. In December, 1904, he first noticed a small lump behind and below the lobule of the right ear. It grew rapidly and was operated on by Mr. L. B. Rawling at St. Bartholomew's Hospital at the end of March, 1905. He remained there for three weeks and from the patient's account it is doubtful if the tumour was removed or not. The growth had continued to grow very rapidly. On admission there was a large oval-shaped tumour in the right side of the neck, extending from the lobule of the ear above to within two and a half inches of the clavicle. In front it reached the anterior margin of the sterno mastoid and posteriorly the anterior border of the trapezius. The surface was covered by thick, bluish, very congested skin and the upper part was traversed by a curved linear scar. There were three protuberances, over which the skin was very thin, and fluctuation could be felt. The whole mass was fixed to the deep structures. No growth was discovered in the mouth, tongue, or pharynx. No other tumours were found. There was no dysphagia and speech was not affected. The patient had pricking, throbbing pain in the growth, especially at night. There was no pain in the ear or in the temporal region. There was no deafness in the right ear. He received eight injections from May 30th to June 19th. Beyond a slight febrile reaction and an appearance of a local erythema on the buttock there was no change noted in the patient's condition until immediately after the last injection was given, when he experienced sensations similar to those recorded in Case 5. The onset of the attack commenced with a feeling of suffocation, accompanied by a rush of blood to the head and followed by temporary loss of consciousness. He also felt pain in the back. There were temporary cessation of breathing, suffusion of the face which became very red, injection of the conjunctivæ, and swelling of the features. The lips and hands became cyanosed and the body and extremities cold. When respiration again commenced it was laboured, the breath sounds over the sides of the chest being peculiar; expiration was prolonged and followed by stridulous inspiration, with an occasional loud rhonchus. The pulse at this period was faint, fairly regular, and of medium tension—88 per minute. After a few minutes the pulse rose to 120, and this was followed by a rigor, the lips remaining cyanosed and the features swollen. There was profuse sweating of the face but not of the body. The feet became somewhat œdematous. The collapse was treated in the usual way. During this period the temperature in the axilla rose to 104° F.; subsequently it fell to below 97°. The patient slept in the night and next day expressed himself as feeling much better, but the eyes, the cheeks, and the lips were œdematous and pale, and there was slight œdema of the feet. The respiration and pulse were normal. The urine passed in the night was examined, but nothing abnormal was found. After June 19th, 1905, no further injections were given. The growth subsequently ulcerated through in several places, leaving sinuses with large fungating orifices. The patient died on August 27th, 1905.

CASE 8.—A woman, aged 55 years, was admitted to hospital on May 22nd, 1905, for carcinoma of the left breast. Two years ago she first noticed a moveable lump near the left axilla. This gradually became bigger and for the last year the breast had progressively increased in size. The whole breast seemed to increase uniformly and she had never noticed any tumour in the breast substance. The skin over the breast had become blue for the last three months. On admission the whole of the left breast was uniformly enlarged by a hard firm tumour, the whole organ being unduly prominent and firmly fixed to the deeper structures. The skin over it was of a bluish colour and fixed in all parts over the breast; it was infiltrated everywhere over the tumour with growth and was very much thickened. The nipple was slightly retracted. Enlarged glands were felt in the anterior border of the left side and in the left axilla. She received four injections from June 5th to 13th. After the second injection the pain in the breast became very severe and increased in severity after the third. After this injection a local erythema appeared on the buttock, the skin over which became very brawny. After the fourth injection the pain in the breast became intense and extended to the shoulder and down the arm. The latter was much swollen and covered on its extensor surface with an acute erythema. After this date no further injections were given in the hospital.

CASE 9.—A woman, aged 52 years, was admitted to hospital on May 27th, 1905, for carcinoma of the cervix uteri. The history on admission was as follows. The patient was a married woman and had had eight children, the last 15 years ago. Menstruation ceased 10 years ago. She first noticed pain—sharp and smarting in character—in January, 1905. This was constantly present and had become more severe lately. There was no aching in the back. A vaginal discharge was noticed two months ago, becoming blood-stained one month ago. The discharge was not foul. There had been no increased frequency of micturition and the bowels were normal. She had been losing weight recently. Abdominal examination was negative. No iliac glands were

palpable. Per vaginam the left side of the cervix uteri was found to be occupied by a hard, friable mass which readily bled on touching and involved about two-thirds of the circumference of the external os uteri. The whole uterus was slightly fixed on the left side. This patient had six injections but beyond the appearance of local erythema at the site of inoculation after the third injection there was little to record in this case, for she refused further treatment, complaining of pain and insomnia which she attributed to the injections.

Comment on the cases.—The cases treated will be considered under the following headings: (1) those in which the injections had no influence on the course of the disease; (2) those in which the injections were followed by severe pain; and (3) those in which the injections were followed by severe constitutional disturbance.

1. *Those in which the injections had no influence on the course of the disease.*—These were four in number. One of the cases—Case 2—has since died. A second—Case 1—has undergone three subsequent operations for removal of recurrences of the growth in the neck. A third—Case 6—is now attending the hospital as an out-patient. A fourth—Case 9—refused to continue the treatment.

2. *Those in which the injections were followed by severe pain.*—These were cases in which the patients were suffering from carcinoma of the breast—viz., Case 3 and Case 8. In the former case the pain which was extremely severe was located around the growth, radiating from the breast to the back, shoulders, and down the arms. Sleep had often to be procured by morphine. The pain finally became so severe that the patient refused to continue the injections. In the latter case the pain was very severe in the breast and down the arm.

3. *Those in which the injections were followed by severe constitutional disturbances.*—These cases were characterised by cardiac failure. In one—Case 4—this developed gradually and was accompanied by high fever, depression, pain, and other symptoms of constitutional disturbance. In the others—Case 5 and Case 7—the onset was sudden, occurring immediately after the injection, and was accompanied by widespread vaso-motor disturbance and collapse. In Case 4 the symptoms were those of a profound toxæmia—viz., continuous high temperature, headache, dry furred tongue with loss of appetite, general aching pains throughout the body and especially in the joints, a morbilliform rash on the trunk and local œdema over the joints, anæmia, feeble circulation, and great prostration. When the injections were withheld she made a slow and imperfect recovery so far as her general health was concerned. This severe reaction was not accompanied by any amelioration of the condition of the breast or improvement in the general health. Two or three weeks after the last injection she developed pain down the spine and subsequently paraplegia. In this connexion it is interesting to record that Mr. Ryall had under his care at that time two cases of carcinoma of the breast complicated by paraplegia, and these have not been treated with serum. We mention this because it might be wrongfully inferred that this paralytic condition was due directly to the injection. In the other two cases—Case 5 and Case 7—the failure of the heart's action came on suddenly and was accompanied by severe dyspnœa which first suggested pulmonary embolism but examination of the chest did not confirm this. The immediate onset and widespread distribution of the symptoms may have been due to some obscure reflex action or might be explained by assuming that possibly the injection had been made into a vessel—i.e., directly into the circulation. If the latter were the case, the symptoms might be explained by the serum in Case 5 and the vaccine in Case 7 acting either directly on the central nervous system or by producing active congestion of the tumour, causing direct pressure on the great vessels and nerves of the neck, for both these patients were suffering from large tumours in the neck surrounding the large vessels and nerves. In Case 7, who has since died, at the post-mortem examination it was found that these structures were closely incorporated in the growth at the level of the bifurcation of the common carotid. The symptoms in the two cases were not exactly the same; they resembled one another in the sudden onset of the cardiac failure, but differed in the extent and distribution of the vaso-motor disturbance, being general in Case 5 but localised to the head and neck in Case 7. This may be explained by the fact that a serum was used in the former case and a vaccine in the latter, or by the difference in the anatomical relations of the two growths. A number of rabbits were injected intravenously at the Brown Institution with both the serum and vaccine, but although large doses were given no ill-effects were produced; but the possibility of a difference in susceptibility to toxins between man and animals has to be borne in mind. Owing to the severe constitutional disturbances which followed the last injections in the three cases above mentioned, coupled with the fact that in none of the cases treated by injections was there any improvement, it was decided to suspend the treatment.

PART II.—PATHOLOGICAL INVESTIGATION.

The lines upon which this investigation has been conducted are those which Dr. Doyen has set forth in his book on the "Étiologie et Traitement du Cancer." We have used his methods of technique and supplemented them by others of our own. It may here be stated that the principles of the methods adopted by Dr. Doyen are those in general use in pathological research and differ from them only in a few minor details of technique. The cases selected for examination were all characteristic examples of simple and malignant growths, diagnosed clinically as such by the surgeons of the hospital, the diagnosis being confirmed by subsequent microscopical examination. A large number of the cases selected for investigation were mammary growths, both primary and recurrent, together with their secondary deposits in the symphatic nodes. We chose these tumours for preference, regarding them as being less liable to infection with laprophytic organisms than those connected with mucous membranes, where the moist surface favours the excoriation of epithelium and hence the invasion of bacteria. We have examined the acute and rapidly growing tumours as well as the more chronic and slower growing varieties and in every case the examination of the tumour was carried out immediately after its removal from the body. In all we have investigated 44 cases.

The microscopical examination of a very large number of simple and malignant tumours in films and sections prepared from the growth has shown us that the presence of micro-organisms in these pathological structures is by no means constant. In a large number of growths we have failed to demonstrate the presence of any organisms. In cases in which we have succeeded in detecting them the micro-organisms have been of various kinds and were members of the coccal and bacillary groups of bacteria. No one particular organism has been found to be constantly present. In those cases in which we have failed to demonstrate the presence of any micro-organism in films or sections cultures taken from the same growths have generally proved to be sterile. Our attention has been specially directed to the study of those tumours in which the members of the coccal group were present. We have endeavoured to ascertain (1) the nature of the organism when present; (2) the extent to which it was present; and (3) the relationship of the organism to the special cellular elements of the growth.

1. Micrococci when present in the tumours appeared in the form of solitary cocci and diplococci, and as these are the morphological appearances which micrococci assume in tissues when not in the state of active growth it was consequently impossible to identify them by this method of examination with any one particular species of micrococcus.

2. We also found that the organisms were present in very small numbers and we did not find them in greater numbers in the more rapidly growing tumours than in the slower-growing varieties.

3. Owing to the small number of organisms present in such tumours and the consequent difficulty of detecting them microscopically we have reinforced their numbers by the method of incubating the tissues at the body temperature. We did not find that the micrococci bore any special relation to the cells of the growth. Sometimes they were intracellular but more often extracellular.

Cultivations were made from each of the 44 tumours from different cases investigated and the manner in which this was done was the same as that usually adopted in taking cultures from any solid organ. The surface of the tumour, which had been removed at the operation, was seared with a cautery and with sterile knife and forceps, portions were removed from the growing edge and also from the centre of the growth and immediately immersed in liquid media with the strictest aseptic precautions. The cultures thus made were incubated at the body temperature for a period of from one to seven days. These were examined daily and films made from

them, stained, and submitted to microscopical examination. The liquid media we have used include one specially advocated by Dr. Doyen for the isolation of his organism—namely, "*bouillon de mamelle de vache*." This is a watery extract of the cow's udder in lactation, to which peptone and salt are added, and the whole rendered sterile by heat in the autoclave at 130° C. We also used ordinary peptone-bouillon and similar media, to which glycerine (4 per cent.) and glucose (2 per cent.) have been added in the usual way. Sub-cultures from the liquid media were made on solid media, such as agar-agar, gelatin, and potato, in order to study the characters of the growth of the organism on various media; and also for subsequent use for experimental purposes of inoculation. (*Vide* Table II.)

TABLE I.—SUMMARY OF THE CASES.

No.	Age in years.	Disease.	Condition.	Number of injections.	Constitutional reaction.	Local change in growth.	General health.	Remarks.
1	54 (male).	Recurrent epithelioma of the neck.	Operable.	15	*Nil.*	Increase.	Unimpaired.	General health remained very good. Gained four pounds in weight whilst under treatment. Increased tension in growth followed the injections.
2	70 (male).	Epithelioma of the lower jaw secondary to the lower lip.	Inoperable.	12	*Nil.*	,,	Impaired.	No relief of pain. The disease ran its usual course; death.
3	48 (female).	Scirrhus of the left breast.	Operable.	8	Marked increase of pain.	,,	,,	Lost two pounds in weight. Local erythematous rash over the site of the inoculation. Marked increase of pain in the breast. General aching pains in the joints.
4	63 (female).	Atrophic scirrhus of the left breast.	,,	5	Cardiac failure.	*Nil.*	,,	Severe constitutional disturbance accompanied by a morbilliform rash on the front of the body, high fever, general aching pains in the joints and all over the body, together with cardiac failure followed the last injection.
5	65 (male).	Epithelioma of the left tonsil.	Inoperable.	17	Cardiac failure and collapse.	Increase.	,,	Temporary relief of pains in the head. Severe constitutional disturbance followed immediately on the last injection, characterised by cardiac failure and vaso-motor disturbance.
6	61 (male).	Recurrent epithelioma of the lower lip.	,,	16	*Nil.*	,,	Unimpaired.	General health remained very good. Gained five pounds in weight during stay in hospital.
7	58 (male).	Epithelioma of the neck.	,,	8	Cardiac failure and collapse.	,,	Impaired.	Temporary relief of pains in the growth and freer lateral movement of the head. Severe constitutional disturbance followed immediately on the last injection, characterised by cardiac failure and vaso-motor disturbance.
8	55 (female).	Carcinoma of the left breast.	,,	4	Marked increase of pain.	,,	Unimpaired.	Local pain and tenderness in the buttock with injection and brawny swelling of the skin over the site of inoculation. Increased pain in the breast and erythematous rash on the arms.
9	52 (female).	Epithelioma of the cervix uteri.	,,	6	*Nil.*	*Nil.*	,,	The patient refused to continue the treatment, complaining of pain and insomnia which she attributed to the injections.

In this manner we have examined 44 cases—viz., epitheliomata, 7; carcinoma of the breast, 25; sarcomata, 3; lymphadenoma, 2; fibro-adenoma, 2; myxoma, 1; lipoma, 1; and inflammatory tumours, 3. The organism named by Dr. Doyen the "micrococcus neoformans" was present in 11 of the 44 cases—i.e., in 25 per cent. of all the cases examined; the "micrococcus neoformans" was present in one of the seven cases of epithelioma, in seven of the 25 cases of carcinoma of the breast, in two of the three cases of sarcoma, in the case of myxoma, but in none of the eight cases of other tumours. Of these 11 cases in which the "micrococcus neoformans" was present it appeared in pure culture in eight cases and in the remaining three it was present with other organisms. In cultures which are sterile Dr. Doyen states that the "micrococcus neoformans" can be demonstrated in the sediment at the bottom of the liquid cultures. Of the 16 of our cases which gave sterile cultures the sediment at the bottom of the tubes was carefully examined, but in no single instance were we able to identify an organism with the "micrococcus neoformans." Of other organisms which were found to be present in the tumours we examined we draw attention to the fact that a streptococcus was found in 13 out of the 44 cases, as compared with 11 in which the "micrococcus neoformans" was present.

A study of the "micrococcus neoformans" shows that it is a polymorphic coccus measuring from less than 0·5 to rather more than 1μ in diameter. It possesses an outer envelope which does not stain easily but has no definite capsule. It is usually associated in pairs and when growing in liquid media appears in short chains. Occasionally one of the elements dividing in a direction parallel to the long axis produces a bifurcation of the chain. The organism stains well with the ordinary aniline dyes and is not decolourised by Gram's method. It grows readily on ordinary media. On agar-agar it forms a raised, white, moist, shiny and viscid growth which can be easily detached from the medium. On gelatin the growth is similar and is accompanied by slow liquefaction of the medium; and as the organism is preferably an aerobe stab cultures in gelatin are characterised by cupping of the superficial portion of the stab. In bouillon the growth appears as a general cloudiness of the medium which gradually clarifies by sedimentation of the growth to the sides and bottom of the tube.

With a view to ascertaining the pathogenic action of the "micrococcus neoformans" on animals a series of experiments have been conducted at the Brown Institution. The animals used were rats and mice. The method of inoculation was intraperitoneal, as used by Dr. Doyen in his researches. In all 200 animals were inoculated—viz., 110 mice and 90 rats. The organisms used in these cases were obtained from four different tumours—viz., carcinoma of the breast, carcinoma of the neck, carcinoma of the ovary, and melanotic sarcoma. The organism in the two latter cases had been isolated by Dr. Doyen who very kindly supplied us with subcultures. Many of these animals died from natural causes, others as the result of the inoculation, and of those which survived half the number were killed at the end of three months and the remaining half at the end of six months. In none of the animals did we find any evidence of simple or malignant tumours as a result of inoculation. In the animals which died from natural causes we found large tapeworm cysts in the liver and in a few cases pneumonia. In those animals which died as a result of the inoculation the cause of death was found to be either peritonitis or broncho-pneumonia. In the animals which survived and were killed at three and six months nothing abnormal

TABLE II.—TABULATED SUMMARY OF THE CASES.

No.	Nature of tumour.	Ulcerated or not.	History.	Organisms present.	Presence or absence of the "micrococcus neoformans."
*1	Recurrent epithelioma of the neck.	Yes.	3 months.	Polymorphic micrococcus.	Present.
2	Epithelioma of the neck, secondary to the tongue.	Yes.	12 ,,	Solitary micrococci; streptococci; diplococci; short bacilli.	Absent.
3	Epithelioma of the tongue.	Yes.	12 ,,	Streptococci.	,,
4	Fibro-adenoma of the breast.	No.	3–4 years.	Streptococcus longus.	,,
5	Carcinoma of the breast and axillary glands.	No.	6 weeks.	None.	,,
6	Sarcoma of the breast and axillary glands.	No.	4 months.	Polymorphic micrococcus obtained from the axillary gland.	Present.
7	Mastitis.	No.	—	None.	Absent.
8	Epithelioma of the jaw (recurrent) secondary to the lip.	No.	3 months.	,,	,,
9	Recurrent carcinoma of the axillary glands, secondary to the breast.	No.	4 ,,	Streptococci.	,,
10	Carcinoma of the breast.	Yes.	2 years.	,,	,,
11	Myxoma of the parotid.	No.	—	Polymorphic micrococcus.	Present.
12	Epithelioma of the lip.	Yes.	4 months.	Streptococci.	Absent.
13	Carcinoma of the left breast.	No.	—	None.	,,
14	Carcinoma of the right breast and axillary glands.	No.	7 weeks.	,,	,,
*15	Recurrent epithelioma of the neck.	No.	3 months.	Polymorphic micrococci; short bacilli.	Present.
16	Epithelioma of the lip.	No.	3 ,,	Micrococci.	Absent.
17	Recurrent carcinoma of the breast and axillary glands.	No.	4 ,,	Polymorphic micrococci; streptococci in growth; polymorphic micrococci in gland.	Present.
18	Recurrent carcinoma of the breast.	No.	4 ,,	Polymorphic micrococcus.	,,
19	Paget's disease of the right breast.	Yes.	4 years.	None.	Absent.
20	Carcinoma of the breast.	No.	9 months.	Polymorphic micrococcus.	Present.
21	Recurrent carcinoma of the axillary glands, secondary to the breast.	No.	2 years.	None.	Absent.
22	Lymphadenoma of the left neck.	No.	—	Streptococci.	,,
†23	Carcinoma of the breast.	No.	4 months.	None.	,,
24	,, ,,	Yes.	12 ,,	,,	,,
25	,, ,,	No.	2 years.	,,	,,
‡26	Sarcoma of the breast.	No.	1 month.	Micrococci; small bacilli.	,,
†27	Recurrent carcinoma of the supraclavicular glands, secondary to the breast.	No.	4 months.	Staphylococcus; polymorphic cocci; small bacilli.	Present.
*28	Recurrent epithelioma of the neck.	No.	4 ,,	Polymorphic cocci; small bacilli.	,,
29	Melanotic sarcoma of the breast, axillary glands, and abdominal wall.	No.	1 year, 7 months, and 6 months respectively.	Breast: Polymorphic bacilli. Glands: Polymorphic micrococci. Abdominal wall: Large and small micrococci.	Present (only in axillary glands).
30	Granuloma of the liver.	No.	18 months.	None.	Absent.
31	Carcinoma of the breast and axillary glands.	No.	19 ,,	Polymorphic bacilli; polymorphic micrococci; staphylococci.	Present (in growth only.)
32	Fungating carcinoma of the breast, enlarged glands, axilla, &c.	Yes.	12 ,,	Streptococci; bacilli.	Absent.
‡33	Sarcoma of the breast (recurrent) and axillary glands.	No.	3 weeks.	Streptococci; bacilli (in growth).	,,
34	Carcinoma of the breast.	No.	2 ,,	Micrococci; small bacilli.	,,
35	Carcinoma of the breast and axillary glands.	No.	—	None.	,,
36	Carcinoma of the breast.	No.	2 weeks.	,,	,,
37	Lymphadenoma of the left neck.	No.	18 months.	Streptococci.	,,
38	Recurrent epithelioma of the glands in the groin, secondary to the foot.	No.	1 month.	Streptococci.	,,
39	Chronic adenitis of the inguinal glands.	No.	8 months.	None.	,,
40	Carcinoma of the breast and axillary glands.	No.	2 years.	Streptococci in gland only.	,,
41	Carcinoma of the breast (in lactation) and axillary glands.	No.	2 months.	Diplococci in growth resembling the pneumococcus.	,,
42	Carcinoma of the breast and axillary glands.	No.	2 years.	None.	,,
43	Carcinoma of the breast and axillary glands.	No.	1 month.	Polymorphic cocci in growth and gland.	Present.
44	Fibro-adenoma of the breast.	No.	10 months.	Small bacilli.	Absent.
45	Recurrent carcinoma of the infraclavicular glands, secondary to the breast.	No.	11 ,,	None.	,,
46	Carcinoma of the breast and axillary glands.	No.	5 ,,	Bacilli (in growth); polymorphic cocci (in gland).	Present (in gland only).
*47	Recurrent epithelioma of the neck.	No.	4 ,,	None.	Absent.
48	Carcinoma of the breast and axillary glands.	No.	2 ,,	Micrococci (in growth); bacilli (in gland).	,,
49	Lipoma of the axilla.	No.	3 years.	None.	,,

* Removed from the same patient at different times of recurrence. (See Case 1, Clinical Investigation.) † Removed from the same patient at different times of recurrence. ‡ Removed from the same patient at different times of recurrence.

was found beyond worm cyst in the liver in a small percentage.

It will thus be seen that the experimental results we have obtained by the inoculation of the "micrococcus neoformans" into rats and mice have in every case been of the inflammatory character analogous to those we should expect to result from the inoculation of these animals with organisms of the same class. In no single instance have we met with tumours, either simple or malignant, in the animals we have inoculated. Most of the microscopical preparations obtained from Dr. Doyen's own animal experiments, and which we had the privilege of examining in his laboratory during our visits to his clinique at Paris, appeared to us to be of an inflammatory nature. Some of them, however, bore microscopically a superficial resemblance to carcinomatous and sarcomatous formations and these were localised and very small, and were unaccompanied by secondary deposits in the lymphatic nodes or generalisation in the organs; nor were they accompanied by wasting or the other clinical attributes of malignant disease. The animals were killed by him at fixed intervals of three, six, and nine months. A few of the microscopical preparations resembled in their structure simple growths, such as adenoma, lipoma, and chondroma. It is known that rats and mice, in common with the rest of the animal kingdom, are liable to tumour formations. That mice are subject to cancer, analogous to cancer in man, and that *it may arise spontaneously* is now an established fact.

In no single instance has Dr. Doyen to our knowledge produced cancer in mice or rats. The fact that malignant growths can arise spontaneously in these animals makes it highly probable that simple growths might have a similar origin. If such is the case those tumours which Dr. Doyen has met with in the large number of mice and rats he has inoculated may have existed prior to the inoculation. He himself, however, attributes their formation to the action of the "micrococcoccus neoformans," with which the animals were inoculated, in that he found the organism present in the growths at the time he killed the animals some months after inoculation. It is well known that micrococci can exist for long periods in the tissues of the body as parasites; and if an animal posses-ing a tumour were inoculated with such an organism we think it is highly probable that it would settle in the growth, for in man a large variety of bacteria are often found to be present in tumours and appear in cultures taken from such growths, whilst they are absent in the neighbouring healthy tissues.

The presence of organisms in tumours admits of two explanations—firstly, in tumours arising from the deeper layers of the epithelium in the skin and mucous membranes, where organisms are constantly present, it is quite conceivable that the bacteria grow *pari passu* with the tumour and accompany it throughout its life-history, being carried in the secondary deposits to the lymphatic glands and to the metastases. A polymorpho-coccus differing from the micrococcus neoformans only in its manner of growth on gelatin and potato is found in the skin, and Dr. Doyen himself has discovered the "micrococcus neoformans" in the secretion of a breast which was not the seat of a tumour. Secondly, in those tumours which do not arise in connexion with the skin and mucous membranes it is probable that the organisms reach them through the lymphatics—in this connexion the occurrence of a streptococcus in pure culture in two of our cases of lymphadenoma of the neck is interesting when we consider how prevalent this class of organism is in the mucous membrane of the throat. The streptococcus obtained from these two cases, inoculated beneath the skin of rabbits, was not followed by any neoplastic changes in the nearest lymphatic glands.

In conclusion, we would say that the organism which Dr. Doyen has named the "micrococcus neoformans" is, in common with other micrococci, often present in malignant tumours; but in our opinion it is not present in sufficient numbers, or with reasonable constancy, to be regarded as the etiological factor in the evolution of these growths. Moreover, in our hands the inoculation of animals with this organism is not followed by the formation of neoplasms but by the expression of an inflammatory reaction.

HOSPITAL SUNDAY FUND AT BRISTOL.—At a meeting of the committee of this fund held on March 29th it was stated that £2076 had been received this year against £2053 in 1905. The following grants were made: Royal Infirmary, £811; General Hospital, £680; Children's Hospital, £257; Eye Hospital, £121; and £120 were distributed among the dispensaries and smaller hospitals.

A NOTE ON

THE PATHOLOGY OF GANGRENE AND PERFORATION OF THE HOLLOW ABDOMINAL VISCERA AND "ACUTE PERFORATING ULCER OF THE STOMACH."

BY DAVID DRUMMOND, M.D., D.C.L.,
SENIOR PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE;
AND
RUTHERFORD MORISON, F.R.C.S. ENG.,
SENIOR SURGEON TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

CERTAIN of the hollow viscera—viz., the gall-bladder, the vermiform appendix, the cæcum, the urinary bladder, and the stomach—are subject to gangrene followed by perforation as the result of acute intra-visceral tension. In all, the condition is likely to be complicated by the intrusion of micro-organisms, but we suggest that mechanical causes are the chief factors in its causation. The striking similarity of the pathological appearances met with in all these viscera suggests a probable similarity in their origin. It seems to us extraordinary that this should have escaped notice, but, so far as we can find, little has been done to show how the behaviour of one of them under certain stimuli may be a guide to the conduct of the others in similar circumstances.

Our present paper only concerns patchy gangrene followed by perforation; this follows certain laws and is to be found affecting all the viscera that we have named. In all the forms of gangrene which we are considering the lesion commences as a small patch more or less circular in outline and at that portion of the wall of the viscus farthest from the source of its vascular supply.

The gall-bladder.—In the gall-bladder perforation generally occurs through a gangrenous patch at the fundus and is due to a stone impacted in and blocking its neck or the cystic duct, thus causing retention and consequent infection of the contents. Yet the perforation is not due purely to mechanical causes, for mechanical distension of the gall-bladder sufficient to produce rupture causes a leak near the neck of it, not near the fundus. The gangrenous patch at the fundus is roughly circular in shape and occurs at the position farthest removed from the origin of the cystic artery.

The vermiform appendix.—In the vermiform appendix, acutely inflamed and distended, gangrene first appears as a patch towards the tip and opposite its mesentery—that is, farthest from the origin of the branch of the ileocolic artery which supplies it. It is of some interest to note that in a single case of acute appendicitis, in which one of us (R. M.) excised the appendix only five hours after the commencement of the attack, there is shown a small patch in the position named of the lining mucous membrane which already exhibited signs of gangrene.

The cæcum.—More than once in opening the abdomen for intestinal obstruction due to stricture of the colon we have seen a gangrenous patch or patches circular in shape on the distended tense cæcum. These occur on its anterior surface in the neighbourhood of the anterior longitudinal band, that is, in the position farthest from the source of its vascular supply.

The urinary bladder.—For the urinary bladder the same rule appears to hold good. A man, aged 25 years, was admitted to the Royal Infirmary under the care of one of us (R. M.) suffering from retention of urine of four days' duration due to gonorrhœal prostatic abscess and excessive whisky drinking. His peritoneal cavity was distended with urine which had escaped through "a small round opening scarcely so large as a split pea, of grey ashy colour, at the superior portion of the posterior wall of the bladder"—i.e., the portion farthest from the main supplying vascular trunks.

The stomach.—Certain so-called ulcers of the stomach, we suggest, have a similar causation; the reasons on which this observation are based require some consideration. It is recognised by all authorities that there are two distinct types of "ulcer" of the stomach—(1) acute, and (2) chronic, and that the pathological causes of both are still undetermined. The chronic ulcer, with long history of previous

gastric trouble, usually situated about the lesser curvature, of irregular shape, and with hard edges, does not concern our present remarks. The so-called acute ulcer, which is comparatively rare, is of great interest in the present connexion. It is situated on a line drawn along the stomach from the centre of the cardiac to the centre of the pyloric orifice—i.e., farthest from the main vessels of supply. Unlike the chronic ulcer it is strikingly circular in shape. Its edges are not infiltrated or hard and examination of recently perforated specimens shows that the edges of the perforation are composed of gangrenous tissue. A frequent history noted by all observers is that serious stomach symptoms have not, as a rule, preceded the attack. Another point frequently observed, and which our view only, we think, explains, is that a second ulcer may be found on the posterior wall at a spot opposite that on the anterior.

We are indebted to Dr. J. Collingwood Stewart, late resident house physician at the Royal Infirmary, for an answer to certain questions which we considered might be usefully inquired into in the history of cases of gastric ulcer. The first was as to symptoms which might be caused by attacks of acute listension of the stomach. He ascertained that, with few exceptions, patients in whom a diagnosis of gastric ulcer had been made were subject to attacks of epigastric pain with a feeling of distension, accompanied by breathlessness, sufficient to necessitate loosening corsets or tight bands. In all cases where the diagnosis was verified by operation these symptoms were present.

We thought that excess of hydrochloric acid in the stomach might be accounted for by an extra consumption of sodium chloride and the second question referred to the liking for salt. Dr. Stewart's inquiry showed that out of 40 chlorotic girls more than one-half (25) took an unusual quantity of salt. Of 30 patients with symptoms of gastric ulcer three-fifths liked salt in excess. One "carried a piece constantly"; another "took a pinch whenever she got a chance."

Our view briefly is that excess of hydrochloric acid in the stomach, by producing pyloric spasm and acute gastric distension in an anæmic girl, gives rise to a small gangrenous patch or patches in the stomach wall, and that subsequent digestion of the dead or devitalised patch, if all the coats are involved, leads to perforation. It is generally recognised that the stomach juices in certain circumstances destroy its own wall. We may add that a sudden attack of distension due to pyloric spasm in the case of a chronic ulcer probably accounts for perforation in many instances.

Newcastle-upon-Tyne.

THE RESULTS OF OPERATION FOR RADICAL CURE OF HERNIA.[1]

BY J. HUTCHINSON, JUN., F.R.C.S. ENG.,
SURGEON TO THE LONDON HOSPITAL.

THE aim of this paper is to test in the most stringent manner possible the results of an operation—that for radical cure of hernia—which now occupies a large proportion of the surgeon's time and energy. I find, for example, that over 500 out of a total of 4500 operations which I have performed in the London Hospital during the last 15 years have been done on herniæ. Thus it is probable that at least one-tenth of the general run of surgical operations in our hospital work is directed to obtaining the radical cure of hernia. The proportion of the different forms may be roughly estimated from my own record: inguinal hernia, 360; femoral hernia, 100; and umbilical, ventral, &c., herniæ, 50. These include about 150 cases of strangulated hernia. The answer to the question,—In what proportion is a permanent and complete cure obtained?—has been a varied one. As Mr. John Langton wrote in 1899[2]: "Afterwards ..... is after all the crucial test of our operative work; at present this 'afterwards' too often lies buried in the depths of the great unknown from causes over which we have but little control." Mr. Langton limited his consideration to cases of inguinal hernia in private practice and concluded, without giving exact statistics, that "in properly selected cases cures will result temporarily, at any rate, in about 80 per cent., but it is probable that relapses are not infrequent."

I would urge that hospital patients afford a better test of the operation for radical cure than do private ones, granting that it is more difficult to follow up those belonging to the former class. It is in those who are engaged in hard manual labour—in stokers, soldiers, railway porters, and the like—that the result of our procedure is best estimated. Moreover, certain conditions must be thoroughly applied, especially with regard to the length of time that has elapsed since the operation. Bassini, to whom surgeons are indebted for having shown the importance of opening up the inguinal canal in the great majority of cases, reported cures in no less than 96 per cent. But his limit of time—nine months or over—was certainly too short and to some extent invalidates his statistics. I have taken as the shortest limit two years from the operation, but so many of my cases have been examined seven, eight, or even ten years afterwards that the average works out at about six years. This will probably be accepted as sufficient. If a man has engaged in his ordinary work for six years after the operation and shows not the smallest sign of recurrence the term "radical cure" may fairly be applied. Again, differing from some authorities, I reject the use of any truss after the operation, since the patient has submitted to it, as a rule, in order to dispense with the inconvenience of wearing one. In four or five of the cases included in my list the patient has of his own choice worn a truss at some time or other after the operation but not on account of recurrence. In all cases of umbilical hernia after operation an abdominal belt should be worn; in a few examples of inguinal hernia (especially the direct form) and of femoral hernia in elderly people a truss is ordered after the operation. But in the statistics that follow it will be understood that these conditions have been carefully observed: (1) that at least two years, and on an average from five to six years, have elapsed before the result is tested; (2) that no truss has been ordered to prevent recurrence and that within six weeks of the operation (often less) the patient has been directed to return to his work; (3) that the smallest tendency to bulge at the site of operation has been considered as a recurrence of the hernia; and (4) that any development of a hernia at another site has been recorded. The last point will be found to be of considerable importance, though it is curiously omitted by nearly all the writers on the subject.

The result of operation for radical cure on inguinal hernia.—Formerly it was considered inadvisable to operate on hernial subjects (apart from strangulation) who were over 40 years of age. But of late years this limit has been extended and in my list six patients were 50 years old or over. The best results of all are certainly to be obtained on young children, but it happens that only four of the cases in my list were under the age of five years at the time of operation. The great majority were men between 20 and 40 years of age. I have followed up 109 patients after operation on inguinal hernia with the limit of at least two years. In four of these the herniæ were double, making a total of 113. 13 were cases of strangulation (with five recurrences) and it seems fair to leave these out since several were patients of very advanced age, three being 55 years old, one 65 years, and one 74 years. Out of 100 cases primarily done for radical cure, eight of the herniæ have relapsed *in situ*; of these in five the recurrence was pronounced, one very slight, and two doubtful. Seven patients have since the operation developed an inguinal hernia on the opposite side and one a femoral hernia. I must admit that this result, 8 per cent. or less of true recurrence, is somewhat better than I had expected.

After all, the formation of a hernia elsewhere does not detract from the original operation being termed a radical cure. And if, judged from the most severe standpoint, the proportion of relapses is only from 6 to 10 per cent., the use of the words "radical cure" is thoroughly justified. The statistics of several surgeons relating to Bassini's method practically agree with my own. Thus Carlé and Nicoladoni found 6 per cent. of relapses *in situ*, and Ceccopieri and Scarrone 7 per cent. One may be allowed some suspicion of the much more favourable results that are now and then brought forward. Thus Lucas-Championnière claims to have had only 4 per cent. of recurrence but in one of his tables it will be noticed that only half the total number were followed up for more than two months! This fact, to my mind, renders valueless his statistics, since recurrence, if it does follow, usually occurs from nine to 18 months after the operation. There is, of course, no infallible limit and of the eight cases

[1] A paper read before the Medical Society of London on March 26th, 1906.

[2] Transactions of the Medical Society of London, 1899, p. 204.

of recurrence in my list one developed two years and two others three years after the operation; until that time had elapsed the cure appeared to be perfect. Some of my cases were operated on 15 years ago and there is no doubt that improved methods during this time have diminished the proportion of recurrence. Mr. Langton quotes Tilanus's statistics in 1879 of only 10 per cent. of cures and Socin's of only 40 per cent. It is, however, surprising to find Bull, in a fairly recent paper, stating that 60 per cent. of his cases ultimately relapsed. There must surely have been some grave fault in the form of operation.

Before considering the question of the relative value of the different methods now employed I may allude to one satisfactory fact that came out in the investigation of the cured cases. Practically without exception these patients stated that their operation scars never gave them the slightest trouble and many expressed themselves as improved in general condition and vigour by the removal of the hernial protrusion.

The best methods of radical cure.—I believe that on only two points are surgeons unanimous with regard to the details of radical cure—first, that the incision should be made directly over the inguinal canal, and secondly, that the hernial sac should be separated from the cord as high as the internal ring and there closed by ligature. But with regard to the next question—Should the canal be opened up by division of the external oblique?—much diversity of opinion has been expressed. Some (for example, Mr. Edmund Owen[3] and Mr. T. H. Kellock[4]) express some fear of weakening the canal by this cause and urge that a cure can be obtained without it. This may fairly be admitted in the case of young boys, though even in them it is easier to deal thoroughly with the sac after the aponeurosis has been divided. I believe, with the majority of writers on the subject, that in order to narrow the canal it is advisable first to open it up as high as the internal ring and that careful suturing of the aponeurosis will leave it as strong as, or even stronger than, it was before. I have met with one case and one only in which the whole anterior wall of the canal bulged after such suturing (with kangaroo tendon). Primary union had occurred and I cannot account for this solitary exception. In the 100 cases quoted the aponeurosis was divided in almost all.

With regard to the method of dealing with the sac two chief opinions are held. Many surgeons simply tie the sac at the internal ring and let the stump retract; others twist and fix the proximal portion in a new position. I am a firm believer in the latter method. If the sac is of average thickness it is brought through a small opening towards the anterior superior spine and secured there (thoroughly twisted up) by a double tendon suture which transfixes the muscles and the sac. I have never met with a single case of recurrence at the spot where the twisted sac had been brought through the abdominal wall in this manner. If, however, as in some large old herniæ, the sac is very thick I tie it with a Staffordshire knot high up and pass both ends of the ligature on a mounted needle through the muscular wall near the anterior superior spine, subsequently knotting the ends tightly together so as to displace the stump upwards and outwards well under the thick muscles in this position. Sir William Macewen's plan of folding up the sac in the subperitoneal space has, I believe, gone out of use, and it appears to have little to recommend it.

Narrowing the inguinal canal.—The late Professor J. Wood was the true pioneer in all that relates to radical cure of hernia, and his contention that it was necessary to restore the valvular action of the conjoined tendon as well as to deal with the sac has been abundantly proved. It is shown especially by the greatly improved results that have been obtained since Bassini introduced the open method of suturing the conjoined tendon, behind the cord, to Poupart's ligament. For practical purposes the methods of narrowing the canal are only three: (1) Its complete obliteration between the external and internal rings behind the cord (Halsted); (2) narrowing it in front of the cord by sewing down the internal oblique and transversalis (Professor Wood, Sir William Macewen, and others); and (3) narrowing it behind the cord (Bassini). The second method is sometimes wrongly described as obliteration of the canal. All three methods are good, though not one of them absolutely guarantees the patient against all chance of recurrence.

In cases which have been previously operated on, in inguinal hernia in women, and in cases of retained testis where the organ cannot be brought down to the scrotum, the complete obliteration of the canal should be practised. There are some others in which the conjoined tendon is poorly developed and cannot be sutured to Poupart's ligament without undue strain—for these also Halsted's method is advisable.

Of the other two, Bassini's plan—narrowing the canal posteriorly—is probably the most efficient, and it has the endorsement of many surgeons. Of my 100 cases the majority were operated on by Bassini's method; in the earlier ones no formal narrowing of the canal was practised, whilst in about 20 either the canal was obliterated or its anterior wall was tightened up. Of the eight cases of recurrence Bassini's method has been employed in two, Macewen's in one, whilst in five the sack had been twisted and displaced without formally narrowing the canal. This, I think, is conclusive evidence that in adults thorough dealing with the sac alone does not suffice. It should be noted that one patient with poorly developed muscles had a double hernia and recurrence followed operation on both sides, counting as two cases. Another, a case of double direct hernia, recurred on one side only after Bassini's operation had been done on both. A third patient proved to be so unruly and violent after the operation that recurrence of the hernia was only to be expected. Two cases are included as doubtful recurrence; in them no bulging could be made out on examination but the patients stated that it sometimes was present.

It has been urged against narrowing or obliteration of the inguinal canal that orchitis, varicocele, and hydrocele frequently result. In my own cases I could not ascertain that any one of these complications had happened. In one patient the testis was hard and lumpy, but reference to the notes proved that it was in this condition before the operation. In another a slight varicocele was present. When the canal is so narrowed as to injure the vessels of the cord there is undoubtedly a risk of subsequent orchitis or even atrophy of the testis. But I think this can be prevented by observing the effect of the suturing at the time of operation on the circulation in the cord. And unless there is a true varicocele present it is both unnecessary and inadvisable to excise any of the vessels of the cord. In former years when surgeons were given to suturing the pillars of the external ring closely together these testicular complications were frequent, and their free occurrence after the use of silver wire (Bloodgood and Halsted[5]) will be alluded to later.

The material for the deep sutures.—If it be taken as proved that narrowing or obliteration of the canal is advisable in the great majority of cases it follows that the use of deep or buried sutures is a necessity. Although sterilised silk is still employed by a large number of operators I have no hesitation in expressing my preference for kangaroo tendon. Mr. Langton, Mr. G. R. Turner, and others have written in its favour. My own experience of kangaroo tendon goes back to 1890, since which time I have buried in the patients' tissues many thousands of tendon sutures. Unlike silk they hardly ever work out and they can be kept in perfect condition for years in an alcoholic solution of carbolic acid; no material is at once so strong, supple, and non-irritating. It is a delusion to think that they are absorbed in a month or two for I have had occasion to examine such tendon sutures two and three years after I had inserted them. Whilst blending with the surrounding fibrous tissue to some extent they can still be recognised at the end of this time. The fact is the tendon is not absorbed but becomes part of the living tissues. Like every other surgeon who has used kangaroo tendon much, I have known a few cases in which these buried sutures have caused suppuration, but as Mr. Langton points out, the trouble is soon over, whereas buried silk or silkworm-gut may sometimes worry the patient with sinuses for months. If the tendon does irritate it has probably been over-prepared with biniodide of mercury or some other unsuitable antiseptic. It is most important just before the operation to transfer it from the alcohol to sterile cold water, in which it should lie for 20 minutes or so. I cannot understand any operator who has given a thorough trial to the tendon for buried sutures ever being afraid of inserting them or of wishing to change to any other material. Professor Wood used kangaroo tendon in many of his cases and silver wire (which he subsequently removed) in others. Of late years some American surgeons have advised

[3] The Practitioner, March, 1906.
[4] Archives of the Middlesex Hospital, vol. vi., 1905.
[5] Johns Hopkins Hospital Reports, vol. vii.

silver wire for all the sutures, buried and superficial. In Mr. Bloodgood's voluminous work on hernia already mentioned,[6] a long series of cases are given in which the canal was narrowed or obliterated by silver wire; in some of them the rectus muscle was dragged down to Poupart's ligament by means of it. The silver wire is supposed by the writer to exert an antiseptic action on the tissues, an action which can only be superfluous if asepsis be obtained. To my mind no region of the body is less suitable for burying silver wire than the groin and its drawbacks were experienced by Mr. C. B. Lockwood,[7] who tried the method in 15 cases with dismal results. In Bloodgood's cases, whatever was the result as regards recurrence of the hernia, the number of troublesome complications recorded is most remarkable. Induration of the epididymis was even referred to as being usual (p. 428) and orchitis followed by atrophy of the testis was frequent. Yet the result in the latter cases was termed "perfect" (p. 480 and elsewhere). Hæmatoma of the scrotum, sloughing of part of Poupart's ligament (p. 427), œdema of the lower limb from obstruction of the femoral vein (three cases), and other complications which could be quoted make up a formidable list which should deter surgeons from using these rigid wire sutures in the radical cure of hernia.

The operation on femoral hernia.—I have only succeeded in following up 16 cases for more than two years, 14 women and two men. The average period at which they were last traced was four and a half years after operation, the average age of the patients at the time being 42 years. There were two recurrences—i.e., 12 per cent. In one of these the recurrence took place three years after operation. In the other case the patient was nearly 60 years of age and had chronic bronchitis. She would not have been operated on for radical cure but for the fact that the hernia was strangulated. Although the number of cases is not large it bears out the statement of Mr. Bloodgood[8] that "the cure of a femoral hernia is not a difficult problem."

I have occasionally turned up a flap of pectineus muscle to close the ring, but in the great majority of cases I have twisted and fixed the neck of the sac high up with kangaroo tendon and then sutured with the same material Poupart's ligament to the deep fascia, using two or three separate buried sutures. One has to be careful to avoid injurious pressure on the femoral vein; in one case there was evidence of this, the patient's leg swelling from time to time. In one case of strangulated femoral hernia interesting evidence was obtained of the efficiency of the method alluded to. The patient was an old woman who was suffering from bronchitis, from which she died four days after the operation. At the post-mortem examination I found the femoral ring to be well closed; it resisted firm pressure from above made with the finger.

I have had no personal experience with Roux's method of radical cure—fixation of Poupart's ligament to the pubis by means of a metal staple. Mr. J. Crawford Renton[9] records 25 cases of its use and speaks highly of it. Roux is said to have operated 136 times in this way with only two recurrences of the hernia. The objections that might be raised—viz., that the staple would be liable to work loose and that the femoral vein might be compressed too much—are presumably without much ground. The method seems especially indicated where the femoral ring is widely patent.

One point in the after-treatment of radical cure may here be alluded to—the length of time requisite to secure a sound scar. In both inguinal and femoral cases the wound is, as a rule, soundly healed at the end of a fortnight or three weeks. Is it necessary to insist on the patient resting for more than this time? Some operators, I believe, require two or three months' abstention from work on the part of their patients. But with working men this is a very serious consideration and may mean the entire loss of their previous employment. I see no reason for believing that such prolonged rest is required and have therefore never advised it.

In conclusion, with regard to the radical cure of inguinal hernia the following observations may be made: (1) In all but the simplest cases in children it is best to open up the canal and to narrow it by deep sutures; (2) suturing the conjoined tendon to Poupart's ligament behind the cord by a series of interrupted sutures is probably the best method of narrowing the canal; (3) where the conjoined tendon is deficient, in all recurrent cases, and in inguinal hernia in women the canal should be obliterated; (4) kangaroo tendon is admirably adapted for the suture material, silver wire being probably the worst; (5) recurrence of the hernia *in situ* may possibly take place at any length of time after the operation, but if two years be adopted as the limit it should not occur in more than from 5 to 8 per cent.; and (6) the development of a hernia at another site after operation may be expected in a proportion of cases at least as large as that just given.

Park-crescent, W.

[6] Bloodgood and Halsted: Johns Hopkins Reports, 1900.
[7] Lockwood: Transactions of the Medical Society of London, 1905, p. 162.
[8] Johns Hopkins Reports, 1900, p. 365.
[9] Contributions to Clinical Surgery, p. 140.

ON THE TREATMENT OF CANCER BY THERAPEUTIC INOCULATIONS OF A BACTERIAL VACCINE,

CONTROLLED BY MEASUREMENTS OF THE OPSONIC POWER OF THE BLOOD.[1]

BY DR. C. JACOBS,
AGRÉGÉ AT THE FACULTY OF MEDICINE OF BRUSSELS;
AND
DR. VICTOR GEETS,
ASSISTANT AT THE INSTITUT ST. ANNE; SOMETIME DEMONSTRATOR OF PHYSIOLOGY IN THE PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF LONDON.

THE researches which we have made in connexion with cancer have convinced us: (1) that we have in cancerous cachexia a specific micro-organism, the micrococcus neoformans of Doyen; (2) that the anti-cancerous sera of Doyen with which we have experimented are wholly useless; and (3) that it is practicable to immunise the human organism by means of a series of inoculations of the micrococcus neoformans vaccine provided that these are properly controlled by examinations of the opsonic power of the blood.

In connexion with the first of these subject matters it will suffice to recall to mind that those bacteriologists who, like Metchnikoff, have sought in the different forms of neoplasia for the micrococcus neoformans by the technique prescribed by Doyen have succeeded in finding the micro-organisms, the cultures obtained in the different laboratories being all identical. We ourselves have cultivated the micro organism from 90 per cent. of the tumours examined. Furthermore, we have succeeded in producing localised or generalised neoplasic lesions in 30 per cent. of the cases by inoculating young and vigorous cultures of the micro-organism into mice and white rats. Lastly, as a final argument we shall prove in the course of this paper that the micrococcus neoformans is without doubt the agent of cancerous cachexia.

With regard to the serum of Doyen the clinical results were negative, as our experimental researches made on laboratory animals had led us to expect. This serum was destitute of bactericidal, bacteriolytic, agglutinating, or opsonic power. This serum, had it really possessed the requisite qualities, would have been a precious instrument in the hands of the therapeutist for raising rapidly the defensive power of the cachectic individual; it ought to be discarded.

The vaccines, on the contrary, can give results in careful hands but their inoculation should be made under constant control if it is desired to avoid the bad results which we soon found out when using them. In fact, the vaccines of Doyen are unstandardised vaccines. In view of the principles of immunisation as expounded by Wright we grasped one after another the "why" of the variations of the mortifications or the negative results obtained by the inoculation of doses of vaccine in the rule-of-thumb manner as advocated by Doyen.

To avoid these accidents we propose the employment of a vaccine made from cultures of the same age, sterilised at 60° C., washed freely, and standardised by the enumeration of the bacilli as advocated by Wright. The antibacterial reaction, which is the method of protection of the body, must be closely watched after inoculation. The method which we have employed is based on the plan of defence employed

[1] Synopsis of a paper communicated to the Royal Belgian Academy of Medicine on Jan. 27th, 1906.

by the body in its struggle against the micrococcus neoformans. This plan is neither bactericidal nor bacteriolytic—it is phagocytic. This phagocytosis takes place owing to the presence of an element capable of combining with the micrococcus neoformans and of preparing it for intracellular digestion. This substance, named "opsonin" by Wright (from *opsono*, I prepare), can be discovered and measured in a drop of blood by means of the technique of Leishman, modified by Wright and Douglas. The blood of all our cancer patients was found below normal with respect to its opsonic action upon the micrococcus neoformans; and the opsonic index undergoes variations in strength after each injection of the micrococcic vaccine. The selection of the dose of vaccine and of the appropriate times for the inoculations was based on the examination of the alterations in the opsonic power of the blood. These variations have been carefully studied for a year in all patients subjected to the vaccine treatment and we wish to lay before you the experience gained by us with regard to the rational treatment of cancerous patients.

The general conclusion which emerges from our study is that in certain cases the vaccine can do much, in others it can do nothing. Just as a tubercle vaccine judiciously administered does not cure all tuberculous cases, so a "cancer vaccine" cannot cure all cancerous cases. This question of success or failure in cases apparently alike depends entirely upon the reserve of vital energy and the capacity for reaction which each patient possesses, and this differs in each case. With regard to the immunising we can express a definite prognosis after two or three injections of the vaccine, the alterations effected in the quantity of the opsonins expressing accurately the strength of the auto-protective reaction. For example, when the opsonic index does not rise after one or two injections the case is irremediably lost, the immunity has fallen to the lowest degree, the defensive powers seem exhausted and cannot be stimulated by anything. Continued injections in such cases can only hasten the death of the patient, since each injection of the vaccine removes a certain amount of the protective substances, and as no phase of manufacture, no positive phase, succeeds to this, we only set up a dangerous cumulation of negative phases, leading the patient to an early death.

Let us now consider what occurs in the most favourable cases after an appropriate dose of vaccine has been inoculated. Let us imagine a cancerous patient the examination of whose blood reveals an opsonic index below normal, say, 0·7. An injection of the vaccine is now made. A blood examination undertaken several hours later shows a more or less marked negative phase, more or less transient, with the auto-protective power of the blood lowered to 0·5. Two days later a positive phase succeeds it; an abundant production of protective substances has occurred; the blood possesses defensive powers superior to those met with in the normal individual, and the opsonic index has risen to 1·2. This remains constant for a variable time and then shows a tendency to return to its former level. The time has now come to intervene with a second injection. This done we again see the succession of negative phase, positive phase, plateau of increased protective power, and subsequent descent; with this difference, that the lowest level to which the opsonic power is reduced in the negative phase is 0·8, while the immunity in the positive phase is raised to 1·8, nearly double the normal strength of the blood. These fluctuations in the protective power of the blood have been described by Wright in the phrase "ebb and flow and reflow and maintained high tide of immunity," and again in the phrase "cumulation in the direction of the positive phase." When the curve of immunisation follows this course the patient is one in whom the cancerous development seems arrested. Locally, the surrounding infiltration decreases, the cancerous nodules are reduced to their actual size, the tumour seems to fade, and the skin loses its inflamed appearance. In the case of intra-abdominal tumours this improvement is manifested by the fact that the tumours become moveable and by the fact that their limits can now be defined. The general condition is rapidly modified and the most striking fact observed at the beginning of the treatment is that the patient loses his cachectic colour, the pain is diminished, and, in short, the disease seems to be arrested. This is the time when surgical intervention is likely to be successful if the disease is situated in an organ which is removeable. We advise that this interference should, as formerly, be as extensive as possible, for it cannot be doubted that symbiosis with a mass of newly formed—shall we say teratological?—tissue must go hand in hand with the elaboration and absorption of products injurious to the organism.

To take away a neoplastic mass is to suppress a constant source of cellular toxins in an organism which is already painfully struggling against an infection which is infiltrating everywhere. It is quite evident that we cannot expect an anti-neoplastic vaccine to cause softening or complete disappearance of large tumours in a few days and even supposing that it were possible to bring about a necrotic change in a large tumour the organism would not be capable of dealing with and eliminating more than a limited quantity of the products of such cellular metabolism. It would succumb to the harmful effects of an excess of this cellular débris. We cannot demand a therapeutic method to perform more than it can reasonably be expected to do. If it is capable only of holding in check a disease otherwise confessedly incurable we ought, therefore, to employ it as early as possible. We have more chance of success in our attempts to produce active immunisation if we take the disease at the start, when the patient still has much undeveloped defensive power which otherwise would be used slowly and uselessly in such an unequal and insidious contest as is waged between the organism and the invading neoplasm.

Unfortunately, our task is the most difficult, because the patients almost always come to us in a more or less advanced cachectic condition; only with comparatively few can we produce the curve of immunisation which would lead to their cure. What should we do in such cases? The examination of the blood will assist us. The lower the opsonic index the more cautiously should we proceed by inoculating the smallest initial dose of vaccine so as to avoid too marked a negative phase. As soon as a positive phase is obtained reinoculation is to be resorted to only when that curve begins to decline. We had, in point of fact, in the days before we instituted the method of control which now guides all our operations, recognised that patients who appeared to improve markedly at the beginning of the treatment presented, when the treatment was pursued, a sudden aggravation of their local and general condition—an aggravation which was in every case definite and incurable.

To present a concrete picture of the events which supervene upon inoculations conducted as we now conduct them we shall sum up observations on a few patients showing the different results observed in cases as they present themselves in practice.

1. *Case treated solely with a neoformans vaccine showing a typical immunisation curve.*—A patient, aged 56 years, under the care of Dr. Degueldre of Anvers, came to us 12 months ago suffering from inoperable cancer of the rectum with signs of profound cachexia in addition to constant functional troubles. On admission her opsonic index was found to be 0·7. The vaccine injections immediately started, safeguarded by inoculations as explained above, gradually raised the protective substances of the blood to 0·8, 0·9, and after several months to 1·2, 1·1. To-day the patient has no symptom beyond slight constipation. The general condition is excellent; the characteristic complexion has disappeared, giving place to a perfectly normal appearance. Rectal examination reveals an indurated ring situated high up, quite mobile; this is all that remains of the enormous immoveable mass found before the treatment. The present lesion has remained stationary for more than ten months.

2. *A case treated with therapeutic inoculations of a neoformans vaccine and surgical interference; typical immunisation curve and "cure."*—The patient, aged 64 years, was suffering from cancer of the body of the uterus with very pronounced cachexia. Six weeks before we saw her she had undergone a palliative operation, performed by Professor Kufferath. The blood examination revealed that the opsonic index was below normal—0·65. Three vaccine injections were administered which brought up the opsonic index from 0·65 to 0·9. At the same time the general condition was improved; the uterus became moveable and justified a radical operation which had been considered impossible three weeks previously. Since the operation the opsonic index has risen above normal and we confine ourselves at present to maintaining the defensive properties of the blood at this level by injections at long intervals. The

patient enjoys excellent health; there is no trace of recurrence; we can hope that she will be eventually immune. The operation took place seven months ago.

3. *Typical curve followed by sudden fall consequent on excessive injections.*—The patient, aged 54 years, was suffering from recurrence of cancer of the breast; there were a cancerous growth along the scar, great œdema of the right arm, and agonising pain. The opsonic index at the time of admission was 0·76. Injections given at once raised the phagocytic value above normal—to 1·2. Healthy skin reappeared in certain parts of the cancerous growth, the patient could move the arm and the fingers, and the pain diminished. During 20 days two injections kept the index at 1·2. The last scarcely raised it; nevertheless, we repeated it and the last inoculation made the opsonic index rapidly fall below normal—to 0·85. The patient, abandoned defencelessly to the infectious invasion, soon exhibited metastases, intestinal, medullary, and locally the cancer slowly invaded the whole thorax. The opsonic index progressively descended to 0·77, 0·7, and 0·6. The patient died six weeks after the curve of immunisation had commenced its descent.

4. *A case of cancer of acute course; negative curve.*—The patient, aged 24 years, underwent in January, 1905, amputation of the posterior lip of the cervix for ectropion. Histological examination showed that the tumour was an epithelioma. Radical operation was advised but was refused by the patient. A month later the disease recurred and appeared on what was left of the cervix. In June, 1905, completely worn out by continuous bleeding, the patient consented to undergo hysterectomy. She already presented the characteristic cachectic complexion. Abdominal hysterectomy was performed and at the same time the infected lymphatic glands were removed as far as possible. The blood examination showed the opsonic index to be below normal, 0·5. Cautious injections were started but the opsonic index oscillated between 0·5, 0·51, and 0·48. The patient gave no stronger reaction. Recurrence was immediate, pelvic and vaginal. Metastases soon appeared in the liver, the stomach, and the intestine. The general condition became pitiable; the pain was frightful in spite of large doses of morphine. The injections were, however, cautiously continued. The opsonic index rose a little, reaching 0·5 at the same time as the general condition somewhat improved. The morphine was decreased and the pain lessened but the invasion of the cancer followed its progressive course. Notwithstanding the improvement which we noted and which corresponded accurately with the results of the blood examination the prognosis remained very gloomy and we expected a fatal issue after a brief arrest. In spite of all care the opsonic index remained much below normal and the patient died in an advanced cachectic condition in December, 1905.

5. *Positive curve; generalised abdominal cancer; profound cachexia.*—A patient, aged 34 years, a primipara, under the care of Dr. Moeller, Dr. Capart, and Dr. Cuypers at Neerpelt, had been ill for two and a half years. She had been operated upon for a uterine disease several years ago and in 1904 posterior colpotomy with vaginal drainage had been performed to evacuate a collection in the right side of the pelvis which was believed to be purulent and of appendical origin. The pelvic collection proved to be ascites set up by a carcinomatous lesion of the tubes. Then followed progressive extension of the tumour masses to the entire abdomen and at the same time rapid cachexia. In February, 1905, abdominal section was performed, allowing examination of the extent of the lesions; all the abdominal organs were bathed in an abundant hæmorrhagic ascitic fluid and were themselves affected; the peritoneal cavity was crowded with tumours of all sizes, tumours which, on histological examination, were shown to be small-celled myxosarcoma originating from the uterine tubes. The operation was incomplete, the precarious state of the patient rendering a prolongation of it impossible. There was immediate return of the new growth, and the cachexia increased; the bladder, the stomach, and the intestine were gradually invaded. The situation was regarded as lost, all nourishment having become impossible. At that time the opsonic index was below normal. A vaccine injection was given, followed very soon by an extraordinary increase of the phagocytic power. With incredible rapidity we saw the grave symptoms improve, the vomiting ceased, the intestine resumed its functions, and the urine became clear. Still taking as our guide the determinations of the opsonic index we continued the vaccine injections. One and a half months after the beginning of the treatment the patient got up for several hours daily. She has now gained more than 13 kilogrammes in weight and has resumed her work. Locally the tumour masses have disappeared except at the bottom of the pelvis, where, however, the uterus is becoming gradually moveable. All ascites has disappeared and menstruation has become regular. This extraordinary result has been verified by the medical men in attendance.

We have selected from the 46 cases which our statistics now comprise those which appear to us most instructive for the clinical demonstration of our researches. We are far from speaking at present of an absolute cure; time alone can verify the "cures" which we report to-day. In all the cases which we have treated by this method we have noticed real and definite improvement. Where the body was worn out by the cancerous intoxication the improvement was only transient, but it has persisted after several months in the patients where the treatment (with or without operation) has been persisted in; these cases remain in a state of health which contrasts in a most striking manner with their former condition of cachexia. Our statistics of 46 cases are grouped as follows:—

"Cure" maintained after several months	7
Lasting improvement	12
Transient result	7
No result	11
Now under treatment	9
Total	46

In conclusion, we desire to express our indebtedness to Professor A. E. Wright and to his fellow-worker, Captain S. R. Douglas, I.M.S., to the former for generous scientific hospitality and learned counsels, to the latter for admirable demonstrations of technique accorded to one of us in the pathological laboratory of St. Mary's Hospital preliminary to the inception of this research.

Brussels.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF FACIAL PARALYSIS SUCCESSFULLY TREATED BY OPERATION IN AN INFANT.

BY ARTHUR COURT, M.B., B.C. CANTAB.

THE patient, a child, aged 17 months, was admitted to the Marsden Moor isolation hospital on Dec. 15th, 1905. He had already been ill seven days with an attack of scarlatina anginosa. He was partially collapsed, with a feeble pulse at the wrist too rapid to count. There was considerable inflammation of the fauces, which were coated with tenacious mucus. The breath was foul and there were an infective rhinitis and profuse discharge of offensive pus from both ears. From the 15th to the 27th his temperature ranged between 101° and 103° F. and his general condition remained critical. He was put on a stimulating diet and his throat was sprayed every three hours with an antiseptic lotion. The ears were irrigated with warm boric and carbolic solutions alternately. On the 27th slight right facial paralysis was first detected; by the 29th it was complete. There was post-aural tenderness and the patient was fretful, vomiting several times. On inspection there were found to be a large perforation in the drum and sagging of the postero-superior meatal wall. On Jan. 2nd the temperature returned to normal and by the 7th the nose and throat were nearly clean, but the child was in a very feeble and exhausted condition. The ears were still being treated with the lotions and with instillations of peroxide of hydrogen twice daily.

It was not until Jan. 26th that the patient's general health would admit of any operative treatment, but as there was no improvement in the character of the discharge and the mastoid tenderness was still present I proceeded to perform the complete post-aural operation. Dr. A. S. Allum administered the anæsthetic. The antrum was full of offensive pus and when the outer attic wall had been removed a condition of acute caries was found to be present in the tympanum and attic. All the diseased lining was curetted away,

together with the ossicles and remains of the membrana tympani. The cavity was thoroughly wiped over with a 1 in 20 carbolic solution, especial care being taken to avoid further injury to the facial nerve. The cartilaginous meatus was split up to the concha and the two halves were pressed back on the raw bony surfaces with gauze packing. The wound was sewn up without drainage and the usual antiseptic dressings were applied. The child passed a good night and his temperature remained normal until the following night when it rose to 101°. On removing the dressing I found it necessary to take out a stitch and to introduce a gauze drain. There was a discharge of pus both from the ear and the wound for about three weeks, but at the end of that time it had entirely ceased. 24 hours after operation it was noticed that the child could close his right eye and from that date onwards rapid improvement in the facial paralysis took place, until, on his leaving the hospital on March 4th, all trace of it had disappeared.

Remarks.—This case is of interest from the fact of the early and complete restoration of function in the facial nerve, indicating, as it does, that too much time should not be wasted in non-operative treatment, for the prospect of a successful result is poor and permanent facial paralysis is practically certain.

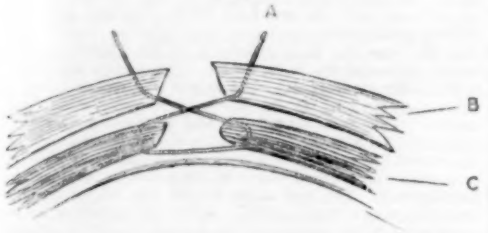
Staveley, Chesterfield.

A NOTE UPON THE SUTURE OF INCISIONS OF THE ABDOMINAL WALL IN LAYERS WITHOUT BURIED SUTURES.

BY J. B. PIKE, M.R.C.S. ENG.,
HONORARY SURGEON TO THE LOUGHBOROUGH HOSPITAL.

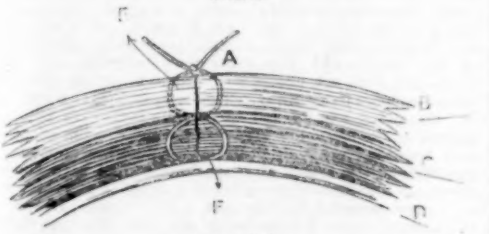
THE occasional persistence of troublesome sinuses after the union of the deeper structures of the abdominal wall by buried sutures suggested to my mind that the desired end might possibly be obtained without the risk of that complication. The method by which I have tried to accomplish this is as follows. The peritoneum having been closed by catgut

FIG. 1.



Suture inserted. A, Suture. B, Integument. C, Muscle, &c. D, Peritoneum. E, Superficial loop. F, Deep loop.

FIG. 2.



Suture tied.

suture a somewhat curved needle is armed with silkworm gut and passed through the skin and subcutaneous tissues; it is then carried through the muscles of the opposite side, back again through the opposing muscle layer, and finally through the skin tissue on the other side of the incision from the primary puncture (Figs. 1 and 2). In this way a figure-of-eight loop is formed, the deeper segment inclosing the muscular layer and the more superficial the skin. The suture may also be readily passed by means of a thread with a needle at both ends. In that case the muscle layer is transfixed on both sides from within outward and the skin is punctured after crossing the suture to form the deep loop. The peritoneum can be included in the deep loop if thought desirable. By this method the edges of the incised skin are brought well together and the effect in approximating the muscular layers can be judged by outward traction on the free ends of the suture before tying.

The theory of this method seemed to me satisfactory. I therefore tried it in two cases operated upon by my colleague, Mr. R. B. Stamford. The first was a case of septic peritonitis; the incision was central. On account of the patient's condition a rapid closure was desirable. The wound was closed by sutures passed through the whole thickness except the lower part. This was packed with gauze and above the gauze I inserted two figure-of-eight sutures. All the sutures became more or less septic, so this test was not a good one except that one could see that the two lowest sutures brought the skin together more evenly and that on removing the gauze the muscle could be seen to be approximated. The second case was one of incision in the iliac region for removal of the appendix. Mr. Stamford sewed the peritoneum with continuous catgut and inserted double loop sutures according to my suggestion. Two stitches were removed on the tenth day and I removed the rest on the fourteenth. They came away with moderate traction and without much inconvenience to the patient. The length of the loop showed that a good thickness of tissue was included and the appearance of the wound was all that could be desired.

I hope this method may be tried and have a useful future. The end which it seems adapted to obtain is certainly desirable.

Loughborough.

A CASE OF EPIBULBAR SARCOMA.

BY JOHN ROBERT FOSTER, M.B. EDIN., F.R.C.S. EDIN.

THE recently published (1904) Part I., vol. i., of "Herbert Parsons's Pathology" contains the following short paragraph on the subject of epibulbar sarcoma: "The general opinion as to malignancy is voiced by Strouse, who says that epibulbar sarcomata never penetrate the globe and rarely produce metastases. Verhoeff and Loring regard them as highly malignant, judging by their tendency to recur and to form metastases."

This paragraph recalled to my mind a case which was under my care in 1904 and which deserves to be recorded in view of the diversity of opinion on this important subject. The patient, who was a boy, four years of age, was sent to me in October, 1904, by Dr. W. Ross of West Hartlepool for consultation. He had on the outer side of the right eyeball in the inter-palpebral region a small dark growth, slightly raised about the conjunctiva, roughly circular, about four millimetres in diameter, and freely moveable on the eyeball. The mother volunteered the statement that the growth had been there since birth but had recently markedly increased in size; this latter was the reason she had consulted her general medical adviser. The result of the consultation was that operation was advised and a couple of days afterwards chloroform was administered and the growth was removed freely. All went well until February, 1905, five months later, when the patient was again brought to me with a small red nodule situated a little below the site of the original growth, more circumscribed and more raised and considerably smaller than the primary growth; it was still moveable over the eyeball. We sent the case to Dr. A. S. Percival of Newcastle-on-Tyne for consultation. Conservative methods were recommended. Accordingly, in February, 1905, Dr. Ross again kindly administered chloroform and I freely removed the nodule, laying bare an area of sclera which could scarcely be covered by the end of the finger. At the present time (13 months since this second operation) the boy is strong and well, with no sign either locally or generally of the old trouble. Mr. Elmore W. Brewerton kindly made sections of both tumours and supplied the following report.

Report of Mr. BREWERTON.—*Primary tumour.* The tumour consists of a small nodule with some outlying processes,

covered by a few flattened epithelial cells and resting on the submucosa of the conjunctiva, which latter shows no evidence of infiltration. The cells of the nodule are arranged in large alveoli and are mostly small with a large nucleus. At the centre of each alveolus are some large epithelial cells. The tumour is non-pigmented and contains a few small blood-vessels resembling capillaries. Diagnosis: The tumour is no doubt a congenital mole. *Recurrent growth.* The tissue consists of the whole thickness of the conjunctiva, in the deeper tissues of which is a small round nodule. This nodule consists of cells resembling the smaller cells of the primary tumour. The nodule is not encapsulated and in one portion the cells are infiltrating the surrounding tissues. The conjunctiva is more vascular than usual. There are no definite blood-vessels in the nodule. Diagnosis: The tumour now is undoubtedly sarcomatous.

Unquestionably these reports show the tumour to have been an alveolar sarcoma, for although the primary growth microscopically is described as a mole it was no doubt clinically becoming a sarcoma—at least, the rapid increase in size noticed by the mother indicates this in all probability.

West Hartlepool.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROYAL EAR HOSPITAL, SOHO.

A CASE OF CHRONIC SUPPURATIVE OTITIS MEDIA WITH CHOLESTEATOMA; RADICAL MASTOID OPERATION; COMPLICATIONS; HERNIA CEREBRI; TEMPORO-SPHENOIDAL ABSCESS; MANIACAL DELIRIUM OF LONG DURATION; RECOVERY.

(Under the care of Mr. MACLEOD YEARSLEY.)

FOR the notes of the case we are indebted to Mr. J. Arnold Jones, house surgeon.

A youth, aged 18 years, was first seen by Mr. Yearsley at the Royal Ear Hospital on Sept. 27th, 1905. The patient was suffering from a chronic discharge from the left ear of about five months' duration. He was sent by Mr. J. Blackwood of Southsea, under whose care he had been for some time and who some three weeks previously had removed polypoid tissue from the meatus. On examination a perforation was seen in the anterior part of Shrapnell's membrane through which a fœtid discharge issued. The watch could not be heard at all by the left ear and the tuning fork showed Rinné negative with bone conduction diminished by eight seconds. The patient complained of slight vertigo and vertical headache.

A thorough course of irrigation with perchloride solution (1 in 2000) and the instillation of hydrogen peroxide was the line of treatment at first adopted, but no improvement ensuing it was decided to perform the complete post-aural operation. This was done on Nov. 9th by Mr. Yearsley, assisted by Mr. A. Logan Murison, chloroform being administered by Mr. J. H. Chaldecott. The usual incision was made, the upper and posterior portions of the cartilaginous were separated from the bony meatus, and the whole ear was turned forwards. The antrum was then approached with a hand gouge and discovered to be much dilated and full of foul cholesteatomatous masses. There was a large hole, something under the size of a threepenny-piece, in the tegmen antri with a ragged tear in the dura mater through which a small knuckle of congested brain protruded. The "bridge" of bone between the antrum and the tympanic cavity was removed, a Körner's flap was cut in the cartilaginous meatus, the cavity was packed with gauze, the incision was sewn up, and the usual dressings were applied.

During the next three days the patient appeared to be comfortable and doing well, still, however, exhibiting a certain childishness or simplicity of manner which had been noted on his admission. The temperature, which was 99° F. on admission, oscillated between that and 99·6°. The pulse was 84, regular, and strong. On Nov. 13th the temperature became 101·4° and the first dressing was done. The post-aural wound was sound but there was a rather foul discharge from the meatus. Hydrogen peroxide was instilled and the cavity was syringed through the meatus with perchloride solution. On the 14th the temperature was normal; the wound was again dressed, the discharge being about the same. The general condition of the patient was quite good. The dressing was now done every day in the same manner; the discharge persisted, the temperature varying from normal to 100·6°. On the 18th, in the evening, the temperature reached 102°. The patient complained of headache and cold feet. The pulse was 84, strong, and regular. There were no ocular or other localising symptoms. On the 19th the temperature remained high and the dressing was very foul, the headache became worse, and the patient began to be restless. On the 20th the temperature at 11 A.M. was 102·8°. The patient had developed pains in the neck and back, the headache persisted, but the discharge, although still free, was sweeter in character. The tongue was very furred in spite of good action of the bowels resulting from aperients. The general appearance was quite good. There were no localising symptoms. The pulse was 92, strong, and full. He was ordered ten grains of calomel. On the 21st the patient seemed to be somewhat better. He was not so restless and the pains in the neck and back were less. The dressing was comparatively sweet but not so free. The temperature was 101°. Towards 8 P.M., however, he became much more restless. He did not respond very readily to questions and began to cry out loudly and frequently. 40 grains of potassium bromide having no effect five minims of morphine were ordered to be injected, but this and a further three minims only procured two hours' sleep.

On Nov. 22nd the patient appeared to be worse. He was more emaciated, his mouth was dry and ulcerated, and his tongue was very furred, although the bowels were freely acting. The pulse was 92, full, and strong. The temperature was 102·2°. At frequent intervals he uttered a curious animal cry; there were no localising symptoms of any kind. His knees were drawn up and the muscles of the legs were rigid. He apparently recognised no one and took no notice when spoken to. He was seen by Mr. Yearsley and Mr. R. Lake in consultation and further operation was decided upon. This was done the same afternoon by Mr. Yearsley, assisted by Mr. Lake and Mr. R. S. Cocke. Chloroform was administered by Mr. Chaldecott. The wound was reopened and the antrum was found to be filled by a gangrenous hernia cerebri. This was shaved off and a quantity of foul pus escaped. An abscess in the temporo-sphenoidal lobe was discovered of about the size of a walnut; this was evacuated and washed out. A large double drainage-tube was inserted. The post-aural wound was left open and the usual dressings were applied. After the operation the temperature at 6 P.M. registered 100·5° and the patient remained quiet until about 7 P.M., when he once more became very restless and more boisterous than ever; an injection of morphine (one-quarter of a grain) was given which, with one drachm of potassium bromide, kept him fairly quiet until 7 A.M. on the 23rd when he became uncontrollably noisy. The morphine (one-quarter of a grain) was repeated and again his delirium was held in check. At 2.15 P.M. he was dressed under ethyl chloride anæsthesia administered by Mr. Chaldecott. The tubes were irrigated with boric lotion but, with the exception of some organised clot, very little discharge came away. The temperature at 6 P.M. was 99°, the pulse was 92, and the respirations were 20. The patient again becoming very restless one drachm of potassium bromide every hour until he was quiet was ordered, but this having little effect after six drachms had been administered, an injection of a quarter of a grain of morphine was given and repeated in three and a half hours. In spite of these hypnotics only three hours' rest were obtained during the night, the remainder of the time being spent in tossing about the bed, shouting at intervals his curious piercing cry. The patient all this time took large quantities of nourishment in the form of whey and beef-tea, consuming in the 24 hours 35 ounces of the former and 13 ounces of the latter.

On Nov. 24th the patient slept all the morning, with the exception of an hour. At 2 P.M the wound was again dressed in the same manner as the previous day; it was in the same condition. The temperature varied from 99° in the morning to 101·2° at night. 30 grains of chloralamide,

followed in three hours by eight grains of veronal, procured him five hours' sleep during the night. On the 25th he appeared weaker and more emaciated: he was still restless, though calling out at longer intervals and with a feebler cry. The pulse was 108, weaker, but irregular. The highest temperature was 101°. The wound was dressed under ethyl chloride anæsthesia. The tubes were removed. An offensive discharge came away. Gauze packing was inserted.

The patient now continued to become progressively weaker and more emaciated, though still restless and crying out, having little sleep in spite of the exhibition of chloralamide, veronal, and potassium bromide in large doses. He remained unconscious of his surroundings. At 2 P.M. on Nov. 27th he became more sensible, answering when spoken to, but with delayed cerebration, having to be kept rigidly to the point. On the 28th a gangrenous hernia cerebi was discovered in the cavity and excised, the healthy brain tissue being kept in the middle fossa of the skull by packing a piece of tinfoil against it with gauze. The pulse now became much weaker in character, easily obliterated, and varying in rate from 90 to 110, and somewhat irregular. His restlessness and noisiness became more difficult to control, chloralamide, veronal, potassium bromide, chloral hydrate, and morphine in large doses, separately and together, producing little result.

On Dec. 1st the mother for the first time admitted a definite family history of insanity. The exposed portion of the hernia cerebri being now covered with granulations the tinfoil was discontinued, the whole cavity being firmly packed with iodoform gauze after the usual cleansing with antiseptic lotions. During the next three days the patient lost still more weight, becoming very weak and emaciated though continuing his noisy delirium unabated and very little controlled by drugs. From 2 P.M. on Dec. 1st to 2 P.M. on the 2nd he was given two drachms of potassium bromide and 40 grains of chloral hydrate and two and a quarter grains of morphine by subcutaneous injection. All this time he was taking large quantities of nourishment in the form of milk, whey, and beef-tea. The temperature, which had shown daily variations between 99° and 101·8° until Nov. 27th, began on that day to fall gradually, remaining about normal during Nov. 30th and Dec 1st. On Dec. 2nd and 3rd it again rose, reaching a maximum of 99·8°, falling to normal on the 4th, to remain at that level during the remainder of his illness.

On Dec. 4th the patient's condition had reached its lowest limit and he was considered to be beyond recovery. He was taking much less nourishment, was extremely feeble and wasted in appearance, although unabatedly noisy and at times spasmodically violent. The pulse was 92, weak, and thready. The dressing for the first time was done without an anæsthetic, his general condition being deemed too bad. 30 grains of sulphonal and two drachms of paraldehyde were ordered; during the night he had further nine drachms of the latter drug, this combination producing the quietest night he had had since the second operation. On Dec. 5th the patient was a trifle better and was again dressed without an anæsthetic. This improvement was steadily maintained during the next couple of days, he took more nourishment, and passed comparatively quiet nights on large doses of paraldehyde. On the 8th he was very markedly better physically, while mentally he was more sensible than at any time since the second operation. The pulse was more full and steady. Very little discharge now came from the wound and the cavity was lined with healthy granulations. With some short lapses into noisy delirium he now progressed satisfactorily and on the 10th was allowed a little fish. On the 12th his mental condition showed a very decided advance; he talked quite sensibly, recognised the people about him, and answered questions with reason but somewhat delayed cerebration. He was taking very large quantities of food in the form of fish, minced meat, bread, and milk. On Dec. 14th it was found possible to discontinue all hypnotics. On this date, also, it was decided to close up the post-aural wound and to pack the cavity through the meatus. Chloroform and ether mixture was administered. The edges of the wound were pared, freshened, and united with interrupted sutures. An incision to relieve tension was made parallel and posterior to the original one. The cavity was packed through the meatus with iodoform gauze and the usual dressings were applied. From this time onwards the patient's progress was one of steady and uninterrupted improvement. The ear was dressed every day and on Dec. 17th he was up for a short period.

On Dec. 21st the patient was discharged from the hospital in a very satisfactory condition. There was still a little discharge from the post-aural wound and some through the meatus. He was sent back to Southsea under the care of his medical adviser, Mr. Blackwood, who has from time to time given information as to his continued and steady progress.

Remarks by Mr. MACLEOD YEARSLEY.—There are several points of interest in the above case. When first seen in September no indication of the condition in which the mastoid antrum must have been was given either by the symptoms complained of or by the signs observable. The fact that there were slight vertigo and headache was only elicited by questioning and these symptoms were unaccompanied by nystagmus. Perforations in Shrapnell's membrane that do not respond to careful treatment are, however, always to be regarded with grave suspicion, and the radical mastoid operation was recommended when on the second examination, about one month later, the condition was found to be unchanged. Even then the case did not appear urgent and consequently a month elapsed before the exigencies of a small special hospital allowed of his admission. A subsequent letter from Mr. Blackwood contained the information that for a week before admission the patient exhibited a peculiar irritability of temper and slight restlessness quite unlike his usual disposition. The small knuckle of brain seen at the first operation was noticed to be much congested and it is highly probable that the condition of encephalitis which subsequently gave so much anxiety was already begun. I had hoped that the careful packing up of the meatal flap would have barred the communication found between the antrum and the cranial cavity, but this failed.

Another point of interest was the entire absence of localising symptoms when the intracranial complication manifested itself. The most careful examination failed to discover any indication of the condition and retinoscopy revealed nothing. This was doubtless due to the fact that the hole in the tegmen antri and dura mater prevented any intracranial pressure, but it is interesting to note that at no time was there a "cerebral" pulse, Cheyne-Stokes respiration, tache cérébrale, or any other of the classical signs which might have been expected. Further operation was, however, an obvious necessity. Although the cerebral hernia then found was in a state of gangrene, the discharge had become quite sweet for the two days previous.

The subsequent history of the case is most instructive, especially as regards the large amount of nourishment taken and the enormous quantities of hypnotics that were required to keep the patient even moderately quiet. In the 24 hours between 10 A.M. on Nov. 26th and 10 A.M. on the 27th the patient took 72 ounces of milk and whey with ten ounces of beef-tea, whilst in several other periods of 24 hours the amount was not far short of this. On the night of Nov. 23rd he took six drachms of bromide of potassium in one-drachm doses and then required half a grain of morphine to induce quiet. On Dec. 3rd he received two and three-quarter grains of morphine in half and quarter-grain doses, whilst on Dec. 5th no less than ten drachms of paraldehyde with 30 grains of sulphonal had to be administered. Probably the extraordinary capacity for hypnotics was due, or partly due, to the encephalitis. In cases of cerebral complications accompanied by excitement it is always difficult to obtain sleep or to allay the delirium and restlessness, but I have never yet met with one in which such enormous doses of hypnotic drugs have produced so little effect.

In such cases as this recovery is largely due to assiduous nursing and I must pay tribute to the unremitting patience and care with which the house surgeon, Mr. Jones, and the special nurses in charge of the case performed their arduous duties.

Remarks by Mr. CHALDECOTT.—From an anæsthetic point of view this case afforded a valuable illustration of the usefulness of ethyl chloride for cases in which rapid induction of anæsthesia is essential. On several occasions it was necessary to dress the wound under an anæsthetic, the patient being at the time wildly maniacal; in the circumstances gas and ether were contra-indicated and owing to the patient's struggles it would have been a matter of some difficulty and danger to induce anæsthesia with chloroform. On each occasion, therefore, I commenced the administration with ethyl chloride, which acted with great rapidity, the patient's struggles ceasing after two or three inspirations, the ethyl chloride being then discontinued and chloroform substituted.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Value of a Serum (Doyen's) in Cases of Malignant Disease.

A MEETING of this society was held on March 27th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. A. PAINE and Dr. D. J. MORGAN communicated a paper on the Value of a Serum (Doyen's) in Cases of Malignant Disease, which will be found at page 955 of our present issue.

Mr. E. SETON PATTISON said that he had had two cases under his care which had been treated by Doyen's serum, in both of which improvement had taken place but the result had not been permanent. The first case was that of a man, aged 63 years, who had been a great smoker and had suffered from leucoplakia of the tongue for several years. In 1904 he developed extensive epithelioma of the tongue, both sides being involved. The breath was offensive, blood-stained mucus dribbled from the mouth, and the patient was emaciated. Pain was very severe and radiated in all three divisions of the fifth nerve. This patient was treated by Doyen's serum in Paris. After four injections the pain was much less and the general condition improved. After one month's treatment the patient had gained flesh, was able to take food well, and the pain had almost gone. About this time small brown sloughs came away from the growth, and in March, 1905, a large slough came away which caused bleeding from the lingual artery. As this could not be controlled both arteries had to be tied. The tongue became pinkish white in colour and the growth smaller. The improved condition was not long maintained, for the patient developed patches of growth on the gums and died in December. The second case was that of a woman who four years previously had had extirpation of the uterus for malignant disease. A tumour developed in the abdomen which on exploration was found to be malignant. The patient suffered greatly from constipation and from attacks of pain in the abdomen and vomiting. Injections of serum were now given and during two months the patient had 24 injections. She gained weight and improved greatly and her constipation was relieved after, as she said, "something had given way inside." She returned home greatly improved but died shortly afterwards. In another case of malignant disease of the breast, after injections of serum, the growth seemed to be retarded but the patient was not otherwise improved. In another case of recurrent cancer of the breast pain was relieved by the injections but the growth was not arrested.

Mr. CHARLES RYALL referred to the psychical effect produced by the serum and said that this was far greater in Paris, where the patients went to receive injections which were to cure the disease, than at the Cancer Hospital, where the patients knew that they were receiving injections of serum which were being tried experimentally. The symptoms produced by an over-dose of the serum appeared to be very similar to those produced by injections of Coley's fluid. He referred to the case of a malignant tumour of the breast which had been treated with serum and in which subsequently the growth was removed; this he considered a most suitable case for investigating the efficacy of the serum but it failed to produce a favourable result.

Mr. J. HOWELL EVANS said that periods of exacerbation and amelioration almost always occurred in the course of any malignant growth and if the injections of serum were administered during a period of amelioration the improvement would be attributed to the serum. It was most important to bear this in mind when considering the case. Pain again varied considerably and the effect of emotion was often very marked. A word of encouragement would frequently improve the physical condition of a patient in a very striking manner.

Mr. R. H. J. SWAN referred to the case mentioned by Dr. Paine of recurrent nodules at the back of the neck. He had examined the growth before and after treatment by the serum and the appearance was exactly the same in each case. He would have thought that if the serum produced any effect the appearance of the growth would show some change after the injection. With regard to the case mentioned by Mr. Pattison, in which the lingual artery was tied, he suggested that the improvement was due to the cutting off of the blood-supply, and in support of this view he mentioned the case of a girl in whom a fungating mass in the mouth became so much less after ligature of the lingual artery that she was able to swallow solids easily and without pain, whereas formerly she had only been able to take liquids.

Mr. PATTISON pointed out that the improvement in his case had taken place before the arteries were tied.

Dr. PAINE replied.

PATHOLOGICAL SOCIETY OF LONDON.

Pathology of Streptothrix Infection.—Some Experiments in Reference to Immunity against Bacillus Pestis.—Therapeutic Inoculation in Mediterranean Fever.

A MEETING of this society was held on April 3rd, Professor A. E. WRIGHT, Vice-President, being in the chair.

Mr. A. G. R. FOULERTON read a paper on the Pathology of Streptothrix Infections. At a laboratory meeting of the society held in 1905 he had made a preliminary communication[1] on 33 cases of streptothrix infection, and since then six more cases had been investigated. The 39 cases were classified, according to the seat of primary infection, as follows: conjunctiva, one case; infection of the tissues of the mouth, 21 cases; infection of the lung, seven cases; infection of the intestinal tract, nine cases, of which five were cases of appendicitis and four were cases of right iliac abscess probably connected with appendicitis; and there was one case of renal streptothrichosis, in which there was a history of previous lung disease of some kind. Out of the 39 patients four belonged to the "unoccupied" class and the occupation, if any, was not known in seven cases. Of the remaining 28 a considerable proportion were from the nature of their occupation specially liable to infection from grain and grasses, which had been shown to be the natural habitat of several species of streptothrichem. Thus four were either coachmen or stablemen, two were bakers, two were gardeners, and there was one dairymaid. Then there was a group of six patients—one tailor, three tailoresses, and two dressmakers—who would in the course of their occupation be in the habit of passing cotton-thread between their lips. In addition to these 15 patients there were others whose history suggested herbage as a possible source of infection. One patient had spent the summer months in the country and had been in the habit of chewing ears of barley and oats; she developed appendicitis within three months of the end of the holiday. Another patient, a young man, developed pulmonary streptothrichosis within three months of a holiday of four or five weeks spent on a farm. A third patient, a cellarman by occupation, lived in a mews. With regard to age distribution there was nothing special to note except that there were only two children under the age of 15 years amongst the 39 patients; five cases occurred in adults whose exact age was not ascertained, ten cases occurred at ages between 15 and 25 years, ten at ages between 25 and 35 years, and the remaining 12 cases at ages 35 years and upwards. Details of the cases were then given. In all the 39 cases the presence of a streptothrix parasite was proved by microscopic examination and attempts at obtaining cultures on artificial media were made in 30. In 13 cases all attempts at obtaining cultures failed. In four cases a scanty growth was obtained in broth only and the precise species present could not be identified, and in the remaining 13 cases the parasite was obtained in pure culture on various media, so that the species could be identified. Streptothrix luteola, which Mr. Foulerton had previously described, was isolated from the case of conjunctivitis and from an abscess connected with a carious tooth. Streptothrix hominis I., a slowly growing organism which on culture media somewhat resembled bacillus tuberculosis and had also been already described, was isolated from two cases of pulmonary streptothrichosis, from two abscesses in connexion with the jaw, from a case of primary infection of the tonsil with extension to the tissues of the front of the neck, and from an abscess in the substance of the cheek. Streptothrix hominis II., an organism somewhat resembling species I., but growing rather more freely and differing in its pathogenicity for lower animals, was isolated from the case of abscess of the tongue. Streptothrix hominis III. and IV. were two distinct

[1] THE LANCET, May 6th, 1905, p. 1200.

species of free growth and of the same type as the common streptothrix of cattle; species IV. had been isolated from two cases of appendicitis and from one case of right iliac abscess and species III. was isolated from the case of renal streptothrichosis.

Captain S. R. DOUGLAS, I.M.S., described some experiments in reference to Immunity against Bacillus Pestis. He said that in view of the work of Professor Wright on antityphoid vaccination, in which he showed by means of blood tests that excessive doses of vaccine produced very prolonged "negative phases" and in many cases the output of antibodies in the cases where the excessive doses were employed was less than in those cases in which a smaller dose had been used, tests were made to ascertain if this was true for plague. Doses of 0·1 cubic centimetre, 0·2 cubic centimetre, 0·5 cubic centimetre, 1 cubic centimetre, and 3 cubic centimetres of plague vaccine made from an eight weeks old broth culture killed at 65° C. to which 0·5 per cent. carbolic acid had been added were given to a series of rats. The best results were obtained with doses from 0·2 cubic centimetre to 1 cubic centimetre. It had been thought that the immunising substance of plague vaccine was contained in the sediment of the vaccine and that the clear supernatant fluid was practically inert. He examined three vaccines; in the first two he showed that the immunising substances in the filtrate were in greater abundance than in the sediment, whilst in the third vaccine the filtrate was almost equal to the sediment. A large number of experiments were undertaken to ascertain if a virulent culture of plague was necessary to obtain an efficient vaccine and it was found that in the case of vaccines made from broth cultures and those made by emulsifying agar cultures in 0·85 per cent. salt solution an extremely efficient vaccine could be made from cultures so non-virulent that the growth from three agar tubes failed to kill a rat when inoculated subcutaneously. Captain Douglas then dealt with the standardisation of plague vaccine by means of the sediment. He showed that the sediment was made up of many variable constituents, and if the weight of the sediment was to be used as a method of standardisation every precaution should be taken to have everything, including the media culture, the temperature, and sterilisation, as parallel as possible. Further experiments were undertaken to ascertain if any information of the amount of immunising substances of the supernatant fluid could be obtained. This was done by estimating the different amounts of precipitate which were present in various vaccines when the supernatant fluid was mixed with an equal amount of highly immune horse's serum. The most suitable dose of plague vaccine for man, as shown by Professor Wright, could most easily be estimated by the examination of the blood of the immunised man after inoculation with a properly standardised vaccine. It was therefore necessary to ascertain if any antibodies against the plague bacillus could be measured accurately enough for this purpose and in consequence the opsonic power of three normal men was estimated for some days to find if this power could be measured with a fair amount of accuracy. After an interval of five days two of the individuals received a dose of one cubic centimetre of a vaccine made from a six weeks old broth culture. In both cases the symptoms following the inoculation were severe, lasting almost a week in his own case, in spite of the fact that the dose given was only one-fifth of that which is usually recommended. It was noticed, however, that the opsonic power of the blood showed no diminution, even on the first day, but rose steadily, reaching its maximum of three times the normal on the ninth day and then rapidly reaching the normal again on the twelfth day. A large number of estimations of this sort would have to be carried out to ascertain the dose.

Staff Surgeon S. T. REID, R.N., read a paper on Therapeutic Inoculations in Mediterranean Fever. He said that the opsonic power of the blood gave a means of accurately regulating the dose of the vaccine to be inoculated. He then described the technique for estimating the opsonic power of the blood for Malta fever. The dose given was from one-sixth to one-third of a cubic centimetre—about 600,000,000 micrococci Melitenses. In most cases the temperature was raised and this corresponded to the negative phase, but never lasted more than 48 hours. In nine cases a fall of temperature was the chief benefit of the inoculations. In four the decrease of temperature was accompanied by a relief of pain. The nutrition of the patient greatly improved; a steady gain in weight was recorded amounting in many cases to at least half a pound a day. In one case a patient gained nearly 30 pounds in a little over a month. He showed by charts the great benefits which resulted from inoculation and said that if the naval and military authorities could be induced to adopt this method of prevention of Malta fever it would lead to a saving of many lives and preserve the health of the troops in that Mediterranean island.

CLINICAL SOCIETY OF LONDON.

Treitz's Hernia complicating Gastro-enterostomy.—Right Duodenal Hernia in an Infant.—Enormous Cyst of the Common Bile-duct.—Cases of Gastro-jejunostomy.

A MEETING of this society was held on March 30th, Mr. H. H. CLUTTON, the President, being in the chair.

Mr. A. E. J. BARKER read an account of a case of Treitz's Hernia complicating Gastro-enterostomy in a patient aged 50 years. On opening the abdomen with a view to doing gastro-enterostomy for carcinoma of the stomach no small intestine was found within the peritoneal cavity. At first this was difficult to explain, but when it was seen that the colon was higher up than usual and that the anterior layer of its mesentery was bulged forward, the position of all the small intestine behind the latter and a Treitz's hernia was recognised. The relation of parts rendered it necessary to open the sac of the retroperitoneal hernia in order to examine the posterior aspect of the stomach with a view to retro-colic gastro-enterostomy. In the sac was all the small intestine. The stomach was too extensively infiltrated with cancer for the anastomosis. Mr. Barker commented on the difficulties which would be met with in such a case in completing a gastro-enterostomy. Fortunately these cases were comparatively rare.

Mr. E. P. PATON read an account of a case of Right Duodenal Hernia, in which the hernia was reduced but death followed in seven days, due apparently to gut re-entering the sac. The patient was an infant, aged three months. The illness started suddenly with symptoms similar to those of intussusception. A swelling could be felt in the abdomen. Laparotomy revealed a considerable length of small intestine which appeared to be engaged under a peritoneal band. This gut was drawn out. No further investigation was possible owing to the general condition of the child. The patient was at once relieved by the operation but was taken suddenly worse on the seventh day and died. At the post-mortem examination a right duodenal hernia was found into which a considerable quantity of gut had returned, which, however, did not seem to be strangulated. There was no peritonitis. The paper was illustrated by photographs and also by the specimen which was now preserved in the Museum of the Royal College of Surgeons of England.—Mr. FREDERIC S. EVE related the case of a woman, aged 64 years, in which he had met with a duodenal hernia during the performance of a colotomy for chronic obstruction.

Mr. EVE read a paper on Large Cysts of the Common Bile-duct. A woman, aged 46 years, was admitted to hospital in November, 1902, with an abdominal tumour and jaundice which had existed for three years. The tumour extended from the right costal margin to the iliac crest and across the abdomen to the left of, and below, the umbilicus and was evidently elastic. It was thought to be a cyst of the pancreas. At the operation the cyst was opened and it was attached to the parietes. It contained seven and a half pints of clear fluid and pieces of grit, and chemical examination showed bile pigment and cholesterin. The fistula remained open and seven months later a communication was made between the cyst and the hepatic flexure of the colon (choledocho-enterostomy). The patient recovered from the operation but died two weeks later from progressive emaciation and exhaustion. At the necropsy the abdomen was found to be normal with the exception of the large cyst of the common bile-duct, which was four and a half inches in diameter. The junction with the colon was firm. Within the cyst and just above the papilla was a papilloma which had acted as a ball valve. Commenting on recorded cases Mr. Eve did not think that the condition was extremely rare, for in only a cursory examination of records he had found 24 cases. As regards causation the cases fell into three groups: (1) those in which the obstruction was due to a vascular formation, to stenosis, or to obliteration; (2) obstruction due to calculus; and (3) obstruction by a growth. Only one case besides that recorded had been found. In the great majority of cases the

cyst had been opened and drained, with the exception of those, including Mr. Eve's, with a fatal result, which was mainly due in this case to progressive emaciation and weakness from persistent jaundice. Some cases had been treated by uniting the cyst with the duodenum, the jejunum, or the colon. Mr. Eve thought that this was a matter of choice and in the majority of cases the colon was indicated on account of the extensive adhesions and the alteration of relationship of parts.

Mr. F. C. WALLIS read notes of three cases of Gastro-jejunostomy. The first case was that of a female patient, aged 91 years, who made an excellent recovery, losing all the symptoms for which the operation was performed. The patient died 12 months later from cerebral thrombosis. The other two cases were both instances in which chronic inflammatory thickening around an ulcer simulated a new growth both in appearance and to the touch. In both cases a posterior gastro-jejunostomy was done. In the one case when the abdomen was re-opened a month later to do a partial gastrectomy the "growth" had almost entirely disappeared and an ulcer on the posterior wall could be felt through the anterior. The patient had quite recovered and had gained weight. In the other case the supposed growth occupied the cardiac half of the stomach. The operation relieved the pain, which was the main symptom complained of, but the patient died on the fourth day from hæmorrhage. The necropsy showed a large ulcer situated on the posterior wall; a large vessel ran along the floor of the ulcer and in the middle of the vessel was an oval opening. Mr. Wallis remarked that the first case illustrated the fact that even very old people stood operations well when their tissues were young. The lessons which he learnt from the other two cases were: (1) that in the majority of cases when partial gastrectomy was under consideration a posterior gastro-jejunostomy should be first performed; and (2) that delays were dangerous in cases of gastric pain which did not readily yield to medical treatment. In such circumstances the abdomen should be opened and the stomach examined. A gastro jejunostomy could be done, and if there had been hæmatemesis to any marked degree the stomach should be opened through healthy tissue in the neighbourhood of the ulcer and the ulcer cut out, cauterised, or ligatured to prevent further hæmorrhage.—Dr. W. HALE WHITE emphasised the fact that old age should not in itself be a bar to even serious operations. He had seen Mr. Wallis's first patient and was much impressed by the relief that she had experienced. The second group of cases was extremely important and he wished to refer in this connexion to masses of inflammatory material arising from the gall passages and simulating new growth by causing pressure on the pylorus. He had seen such a case recently and was convinced of the presence of pus owing to the high leucocytosis present; he had great difficulty in inducing the surgeon to incise the mass which closely resembled cancer, but after evacuation of the pus the patient made a complete recovery.—Dr. F. DE HAVILLAND HALL related a case recently under his care in which great benefit was obtained by simple laparotomy alone.—Mr. W. G. SPENCER referred to the anomalous course often pursued by gastric cancer and warned surgeons against too soon assuming that the diagnosis of cancer was incorrect merely because great improvement followed operation.

LIVERPOOL MEDICAL INSTITUTION.

The Diminishing Birth-rate.—The Position of the Operative Treatment of Fibroid Tumours of the Uterus.—Tropical Abscess of the Liver.

A MEETING of this society was held on March 29th, Mr. FRANK T. PAUL, the President, being in the chair.

Dr. HUGH R. JONES read a note on the Diminishing Birth-rate. Although artificial means of preventing conception were being more generally and systematically adopted it must be remembered that families had always been limited by prudential self-restraint—to an extent not generally realised. The influence of the later age at marriage and the lower marriage-rate and of the employment of women in intellectual and industrial occupations was being underestimated. The death-rate had also fallen and this fall began before the fall in the birth-rate. The former was due in part to the high birth-rate in former years but it also indicated an improvement in the social condition of the population. Improvement in the social status was always attended by a fall in the birth-rate. The natural increment of the population was still high. The low death-rate was masked and compensated for by the low birth-rate. It was to be regretted that except in 1904 and 1905 the rate of infantile mortality had been persistently high. He hoped that the present low birth-rate was only a temporary phase in the history of English civilisation, for a high birth-rate and a robust young population were necessary to continue the past policy of England. The growth of the population of a country depended on the sustained systematic policy of the mass of the people, which was guided by the action and teaching of the educated classes, and upon them was the responsibility.—Mr. COLIN CAMPBELL remarked that THE LANCET had recently directed attention to advertisements of "preventatives" in journals such as *Myra's*. He had exhibited some years ago samples of preventatives sent to a midwife to retail to her patients.—Dr. W. MACVIE, Mr. H. H. MOFFAT, and Dr. G. C. WALKER also spoke.

Dr. T. B. GRIMSDALE read a short note on the Operative Treatment of Fibroid Tumours of the Uterus and pointed out the wonderful improvements that had been made in abdominal hysterectomy of late years and contrasted the mortality at present with that of ten years ago. He also showed that the mortality from operation was now less than that of the disease.—Dr. H. BRIGGS thought the present safety of abdominal hysterectomy in the treatment of fibroids at an early stage was an encouragement to the gynæcologist but the operation could be often declined to the patient's advantage.

Mr. G. P. NEWBOLT read a paper on Tropical Abscess of the Liver, based on cases seen in the tropical wards of the Royal Southern Hospital, Liverpool. In all his cases there was a history of dysentery. Amœbæ were found in the sloughs from the abscess wall in several instances but only once in the motions. The tendency was for the abscess to point posteriorly through the chest wall. In two patients the abscess opened into the lung and the pus was expectorated but it was necessary to drain the abscess freely by resecting rib; both cases recovered. The material expectorated was brownish in colour and contained broken-down liver cells. One of these patients had three abscesses opened and drained during a period of four years but made a perfect recovery. In another two abscesses were opened during life but a third lay between them and was not discovered. Mr. Newbolt laid stress on the importance of exploring with a long needle of large calibre, and also drew attention to the fact that a man with a liver abscess might go about with a normal temperature and without much discomfort, but the pulse was usually quickened. He considered it most important that the dysentery should be cured before the patient was discharged as this disease, although often made light of, at any time might cause fresh infection. In one case the dysenteric pain was so acute that exploratory laparotomy was performed; nothing abnormal was found in the liver and the patient was cured by syphoning the large intestine with a solution of nitrate of silver (20 grains to the pint). In the cases which recovered the pulse-rate declined directly after the abscess was opened; if the pulse-rate kept up it was probable that there were other abscesses present or the dysentery was very severe. Experiments in the post-mortem room showed that the healthy liver would not hold stitches, but after opening the abscess through the abdominal wall, in most cases, the liver being inflamed, the stitches held, though in one case packing was used for a week prior to incision. In operating through the chest wall the abscess was emptied with the aspirator and its wall was pulled up and fixed to the edges of the superficial wound. Large rubber tubes were used for drainage and in some instances the abscess cavity was scraped with a blunt lithotomy scoop and irrigated. In order to show how rapidly the cavities close up Mr. Newbolt said that eight days after the removal of 50 ounces of pus the cavity would only hold four ounces of lotion. In one case the liver abscess was tympanitic owing to the escape of gas from the adjoining colon.—Mr. K. W. MONSARRAT spoke of the difficulties of evacuation and satisfactory drainage in cases where the abscess bulged directly downwards from the under surface of the right lobe at considerable depth from the anterior abdominal wall. He considered that an incision below the twelfth rib in the loin was the only route for satisfactory drainage in such circumstances. He mentioned the case of a woman who had always lived in Cheshire and on whom he had operated for a

single abscess in the right lobe. There were no symptoms of any intestinal disorder; there was no fever; the pus was sterile bacteriologically but contained amœbæ in large numbers.—The following members also took part in the discussion: The PRESIDENT, Dr. T. R. GLYNN, Dr. W. CARTER, Dr. NATHAN RAW, Dr. R. J. M. BUCHANAN, Dr. C. J. MACALISTER, and Dr. J. LLOYD ROBERTS.

Sir JAMES BARR exhibited a new Hæmomanometer.

CHELSEA CLINICAL SOCIETY. — The annual clinical debate of this society was continued on March 20th, Dr. James Barry Ball, the President, being in the chair.—Dr. F. F. Caiger, continuing the discussion on Serum Therapy, said that it might fairly be stated that the anti-toxin treatment of diphtheria stood on a well-established basis. In the hospitals of the Metropolitan Asylums Board during the last ten years between 60,000 and 70,000 cases of diphtheria had been treated, with the result that the mortality, which previously had never been below 30 per cent., had been reduced to less than 10 per cent. The actual figures for 1905 had not yet been published, but in relation to the South-West London Fever Hospital the mortality last year came out at only 8 per cent. It would be thus seen what an enormous benefit was shown in the treatment of diphtheria by antitoxin in the public hospitals of London and it was more particularly in connexion with two classes of cases that that benefit had been most found. In the first class of case, the laryngeal group, before the antitoxin days they did not have any better results than a recovery rate of 30 per cent. He believed that he was correct in saying that eight years previously to the introduction of antitoxin the recovery rate averaged 29 per cent. At the present time, owing to the universal application of that remedy, they were quite dissatisfied with a recovery rate of less than 70 per cent. The second group in which the benefit of the antitoxin treatment had been most strikingly shown was in connexion with post-scarlatinal attacks of diphtheria—in other words, patients convalescing from an attack of scarlet fever who had contracted diphtheria. Prior to antitoxin days post-scarlatinal diphtheria was justly regarded as the scourge of the scarlet fever wards and a large part of the mortality was directly due to it; the mortality taking all attacks with the laryngeal or faucial cases worked out at over 50 per cent. and in the laryngeal group it was 80 per cent. and sometimes even reached 90 per cent. What was the effect of the introduction of the antitoxin treatment on these cases? Simply that instead of 80 per cent. or 90 per cent. the mortality was now reduced to less than 1 per cent., the reason being that these patients were already under medical care at the onset of the diphtheria and the disease was treated at the very earliest moment. Dr. Caiger then proceeded to emphasise the extreme importance of early treatment. The clinical effects which followed the use of antitoxin were a rapid diminution of the faucial swelling and consequent distress, a diminution if not an entire cessation of the offensive discharge from the nose, a limitation of the membrane with its early separation, an improvement in the aspect and general well-being of the patients, and in those cases which died life was prolonged to an extent unknown with any other form of treatment. In his opinion very large doses of the antitoxin were unnecessary. Moderate doses repeated at the end of from 12 to 24 hours, according to the urgency of the case, continued until the membrane showed definite signs of separating, secured as much benefit as ensued with very large doses. The dose should be determined by the urgency of the symptoms and by the time at which the patient came under treatment. Dr. Caiger concluded by discussing the methods of administration of the antitoxin and described the attempts to treat scarlet fever by curative serum.—Dr. B. L. Abrahams, after commenting on the mortality from diphtheria, discussed the serum treatment of typhoid fever. In regard to the mortality from typhoid fever the great difference which had come about in the last few years was in his opinion due to the Widal test. At the present time directly a case was suspected to be typhoid fever the Widal reaction was tried, with the result that there was an early recognition of the disease with the consequent early treatment of it. Concerning opsonin work Dr. Abrahams said that many of those keen on the treatment of tubercle by means of sera and bacterial products said that if a patient had a high opsonic index he would get better with tuberculin, but statistics showed that a patient with a high opsonic index would still get better without tuberculin, in other words, the opsonin test was excellent in diagnosis, but he was not inclined to think that it was going to be of very great service in treatment.—Dr. Allan Macfadyen said that the successful treatment of diphtheria by antitoxic serum had led to investigations in other directions with regard to the possible production of soluble poisons by other infective organisms. Among those attempts were included experiments in connexion with typhoid fever and cholera for the purpose of procuring the soluble poisons concerned, but the result had been disappointing, because the filtrates of typhoid cultures were only feebly toxic and it was found that, as a matter of fact, in the majority of cases of pathogenic organisms the toxins they had to deal with were not soluble toxins but intracellular toxins. It had to be acknowledged that as regards purely bacterial sera there was still doubt as to their actual practical value. Dr. Macfadyen concluded by saying that with regard to serum therapeutics bacteriologists must endeavour to produce some common factor on the antitoxin basis which would neutralise such toxins as those of the streptococci independently of any individual virulence of the strains which might be present, especially in regard to plague, typhoid fever, and cholera. In that way he thought the great future advances in serum therapy would be made. He was not pessimistic about the matter, for he felt that if research was pursued diligently they would come to some results which would be of value in treatment.

ROYAL ACADEMY OF MEDICINE IN IRELAND: SECTION OF PATHOLOGY.—A meeting of this section was held on March 16th, Dr. Joseph F. O'Carroll, the President, being in the chair.—Dr. Alfred R. Parsons exhibited Kidneys which had all the appearances of the congenital cystic form, only a small portion of the kidney substance being left intact. The patient, a man aged forty years, was in his usual good health until the day before his death. Suddenly becoming ill he was admitted to hospital where he died in 12 hours. Clinically he exhibited symptoms of gastro-intestinal irritation, with suppression of urine. The necropsy revealed nothing amiss except the kidneys shown. The brain was examined and was found normal.—Professor John A. Scott considered the condition as being of the nature of hypertrophic cirrhosis due to a pathological change that must have begun within the last ten years at least.—Professor A. C. O'Sullivan showed an Aortic Aneurysm perforating the Pulmonary Artery and causing Perforation of the Pulmonary Valve. The patient from whom the specimen was taken was brought in a dying state to hospital. The necropsy showed an aneurysm of the aorta on the right side, half an inch above the attachments of the valves, and perforating the pericardium. It had also perforated the pulmonary artery above the valves and the valves themselves showed evidence of perforation.—Mr. E. H. Taylor exhibited a specimen of Epithelioma involving part of the Duodenum where the Bile-duct opens into the Intestine. The patient, who was a man, aged 40 years, had had several attacks of jaundice. When he came to hospital his liver was somewhat enlarged and his skin was slightly jaundiced. On opening the abdomen the gall-bladder was found to be distended and a great number of gall-stones were in the common bile duct. A hard mass which was discovered in the duct where it opened into the duodenum was removed. On the ninth day the patient's temperature rose and he developed pneumonia, from which he died. At the necropsy a cancerous mass was found at the mouth of the duct. There was no obstruction to the flow of bile and the liver was enlarged and cirrhotic.—Mr. Taylor also showed a specimen of Cancer of the Ovary removed from a woman, aged 55 years. On examination it seemed like circumscribed peritonitis, and could be felt just above the pelvis. The patient would soon be able to leave the hospital.—Dr. Wallace Beatty exhibited a boy, aged nearly four years, the subject of Urticaria Pigmentosa dating from a month after birth, and h showed microscopic sections of a nodule excised from inside the knee. He demonstrated the interesting fact that the granules of the mast cells, which were stained red by polychrome methylene blue in alcohol, were stained also by eosin if the skin was fixed in Zenker's fluid (i.e., Müller's fluid saturated with corrosive sublimate plus 5 per cent. glacial acetic acid) before final hardening with alcohol.—Dr. Walter G. Smith said that it was not improbable that the closer study of stains and dyes might throw some light upon the important problem of the nature of proteid substances. He pointed out that an efficient stain usually included, or was made up of, three constituents: (1) a

nucleus, or chromophore, with a feeble acid or basic tendency and usually belonging to the aromatic series; (2) auxochromes, represented by NH_2 (basic group), or OH and oxygen (acidic radicals), attached to the chromophore; and (3) salt-forming groups, such as COOH (carboxyl), HSO_3, and NOH.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 28th, Dr. J. K. Kelly, the President, being in the chair.—Specimens were shown by Dr. Robert Jardine, Dr. John Lindsay, the President, and Dr. A. Louise McIlroy.—Dr. A. J. Wilson read notes on three cases of interest—namely, (1) Apoplexy (?) in a Young II.-para; (2) Tumour of the Base of the Skull in a Newly born Infant; and (3) a case of Paternal Influence in Twin Pregnancy. In the first case the patient, while six months pregnant, became suddenly unconscious during the night; there was no history of previous ill-health. A convulsive attack was first observed followed by coma; dark coloured fluid was vomited and there was incontinence of urine. On examination neither œdema nor paralysis was present. Labour was induced and completed and the usual remedies for eclampsia were applied. The coma deepened on the second day, the left arm and leg became paralysed, the urine was suppressed, and death occurred on the fourth day. In the second case, that of a female child, at birth the nasal bones were distended and a cystic portion of a tumour projected from the right nostril. A soft mass covered with skin filled the mouth and projected forwards, pressing the tongue out of sight. The tumour was found to be growing from the naso-pharynx and was attached to the base of the skull. It filled the nasal cavity and passed through a large cleft in the palate by means of a pedicle and then expanded in the mouth into a bilobed mass of the size of an infant's fist. The tumour was removed by operation, the child dying on the ninth day. The microscopical sections prepared by Dr. Duff showed definite dermoid structures. In the third case Dr. Wilson read notes of a woman who gave birth to triplets, followed in 13 months by twins. On the husband's side twins occurred twice in his mother's family; the wives of five uncles each had twins. A short review of recorded cases was given.—Dr. James Weir read a paper on the Resuscitation of Apparently Stillborn Children. He thought that the subject was inadequately touched upon by most teachers of obstetrics and it was one having an influence on the subject of infant mortality. The influence of chloroform was slight unless operative treatment for the mother was prolonged. Dr. Weir in his obstetric practice used A.C.E. or C.E. mixture as being less injurious to the infant than chloroform alone. The method of Schultze was the best for artificial respiration, as in addition to the movements the child's skin came in contact with the varying temperature of the air. Stimulation of the sphincter by inserting the finger into the rectum was often of great benefit in bringing about attempts at respiration. It was also a guide as to the amount of vitality present, a tight sphincter being of good omen.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 8th, Mr. W. H. Date being in the chair.—A discussion took place on Dr. J. R. Thomas's paper on Physical Deterioration. In this paper Dr. Thomas had specified 13 causes which in his opinion tended to impair the health of the nation, some of them being the increase in urbanisation, alcoholism, unsuitable food, parental ignorance and neglect of children, juvenile smoking, syphilis, and inattention to the state of the teeth.—The discussion was introduced by Dr. Thomas himself, who said that he wished to obtain help from the society as to whether it was desirable to form a local branch of the Society for Physical Education and Improvement. He then recapitulated some of his points, adding that infant mortality had not diminished in any part of the country. At Huddersfield great improvement had, however, taken place owing to the mayor of that city having offered a reward of £1 to any mother who brought up her baby for inspection at the end of its first year. As to remedial measures, ladies' health societies were useful. It was undesirable that any child under five years should attend school. Helpful girls might be allowed to assist their mothers during the day and attend school at night. The free feeding of children at school was advisable if they were insufficiently fed at home. The State ought to take measures to insure that no children went to school starving.—Mr. R. Coombe then proposed a motion to the effect that this meeting of the Devon and Exeter Medico-Chirurgical Society was in favour of the formation in Exeter of a local branch of the National Society for Physical Education and Improvement. He drew attention to the report of three Members of Parliament as a result of their inspection of municipal arrangements in Berlin. They came to the conclusion that a despotic government directed the populace on better lines than were followed in free England. More direction was required in England and the medical profession should put itself in the forefront.—Dr. P. M. Deas, who seconded the motion, said that he was inclined to consider that the objects of the National Society were too comprehensive. The attention which was now given to the general principles of hygiene led to a survival of the unfit and tended to keep degenerates alive. The true remedy consisted in education as to the production of children and the avoidance of early and improvident marriages.—Other speakers took part in the discussion and the motion on being put to the meeting was carried.

THERAPEUTICAL SOCIETY.—A meeting of this society was held on March 27th, Sir Lauder Brunton, the President, being in the chair.—Dr. J. Gordon Sharp (Leeds) read a paper on Native and other Plants having some Relationship to Curare, including (1) anchusa officinalis, alkanet, an imported plant containing an alkaloid; (2) echium vulgare, viper's bugloss, an indigenous plant containing an alkaloid; and (3) cynoglossum officinale, houndstongue, a common plant containing two alkaloids. All belonged to the Boraginaceæ. Anchusa rendered a frog's skin moist and hyperæsthetic at first but afterwards insusceptible to stimulation, while the stimulus to the sciatic nerves or the muscles themselves caused contraction. The heart stopped in diastole and atropine only produced a few contractions of the left auricle. Echium caused the same symptoms with more hyperæsthesia and greater weakness of the muscles. After a large dose no stimulation of the sciatic nerve caused any contraction, though the muscles reacted to direct stimulation. The heart stopped in diastole. Cynoglossum rendered the skin moist and very hyperæsthetic; stimulation to either the sciatic nerves or the muscles directly only affected the unpoisoned side. It often acted somewhat like curare but frequently death occurred suddenly with the heart in diastole. Among foreign plants the delphinium bicolor and occidentale from North America and the delphinium scopulorum from Mexico resembled somewhat curare. Their extracts were bitter with a slight smell and turned red with sulphuric or nitric acids, though delpho-curarine, their alkaloid, gave no colour with either acid. The extract of delphinium bicolor acted like curare at first, it increased the action of the skin, but in two hours the muscles of the poisoned side only contracted on direct stimulation, though on the unpoisoned side they were acted on by stimulating the sciatic nerve. Delphinium occidentale at first acted like aconite, increasing all secretions, but later the muscles became insensible to any stimulation, either direct or through the nerves. Delphinium scopulorum differed from the others inasmuch as the nerve centres of the cord were greatly depressed, more than the nerve trunks or the motor ends. Delphinium staphisagria or stavesacre first stimulated the secreting organs and the nerve centres, then depressed, and at last paralysed the nerve centres, the motor nerves, the muscles, and finally the nerve centres of the heart.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 17th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. John M. Cowan read a paper on the Results of the Infectious Diseases on the Vessels. He said that arterial disease might be produced by bacterial causes acting acutely and for a short period. Those acute lesions might be of little importance *per se*, but as places of diminished resistance they might allow the more slowly acting chronic causes to take effect. He showed microscopic sections illustrating the effect of syphilis on the arteries: endarteritis obliterans in the smaller vessels; in the larger the lesion was focal; the intima was thickened and degenerated; the media was slightly atrophied; in the adventitia the vasa vasorum were affected by endarteritis obliterans and around the vessels were little collections of mononuclear cells. The nutrition of the media and intima was thus interfered with. Other specimens showed patches of necrosis in the media—one with calcareous granules and in another the necrotic area was invaded by

granulation tissue. Dr. Cowan then showed that the same type of lesion was found in other diseases, such as acute rheumatism and tuberculosis. In enteric fever Thayer found fresh atheroma in 21 out of 52 necropsies. Bacteria had been found in a few such patches and the infection apparently had been directly by the blood stream and not vasal. Small aggregations of mononuclear cells around small arteries were found in the organs in many diseases. These, in some cases, might cause distinct increase of the peripheral resistance and a rise of blood pressure. An irregular arrangement of the elastic fibres of the middle coat of the aorta was another change found in diseases such as pneumonia, pulmonary tuberculosis, acute peritonitis, and enteric fever.—The President read a paper on Certain Clinical Aspects of Arterial Disease. He said that clinically there were two varieties of high arterial tension: (1) temporary and recurrent; and (2) continuous. The first was brought on by excess in diet, by constipation, or by nervous excitement, and could be relieved by the judicious use of aperients and the nitrites. The latter form was associated almost always with chronic renal disease. In both, the exciting cause was the presence of toxic agents in the blood.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on March 23rd, Mr. E. Ward being in the chair.—Among the cases shown were the following:—Dr. T. Wardrop Griffith: A case of Atypical Leucocythæmia in a boy, aged 13 years.—Mr. W. H. Brown: A case of Traumatic Asphyxia.—Dr. Bedford Pierce: A case of Korssakow's Disease in which there were a 17 years' history of intemperance and evidence of affection of the lateral columns, with marked amnesia and failure of orientation.—Mr. H. Littlewood: A case of Rheumatoid Arthritis of the Knee, in which arthrectomy was performed with benefit.—Dr. A. G. Barrs: A case of Hodgkin's Disease with high lymphocyte count and slight dyspnœa as the only symptom.—Dr. A. Sharp: A case of Pachydermia of the Vocal Cords.—Mr. G. P. Anning and Dr. E. F. Trevelyan: A case of isolated Paralysis of the Extensor Communis Digitorum in a man with a history of lead poisoning.—Dr. T. Churton: Several cases of Metapneumonic Empyema.—Mr. H. Secker Walker: A case of Persistent Hyaloid Artery in both Eyes.—Mr. Michael A. Teale: A case of Monocular Vertical Nystagmus.—Mr. R. Lawford Knaggs: A case of Gangrene of Fingers following injection of spirit of camphor given four inches above the wrist; almost immediately the thumb and three outer fingers became cyanotic and subsequently gangrenous.—Dr. W. H. Maxwell Telling: Extensive Scarring in a case of Generalised Vaccinia.—Dr. Dobson and Dr. Telling: Two cases of Probable Gummatous Ulceration of the Tongue in Children.—Cases were also shown by Dr. J. Gordon Sharp and Dr. A. L. Whitehead.

Reviews and Notices of Books

A System of Medicine. By Many Writers. Second edition. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D. Cantab., F.R.C.P. Lond., LL.D., D.Sc., F.R.S., F.L.S., F.S.A.; and HUMPHRY DAVY ROLLESTON, M.A., M.D. Cantab., F.R.C.P. Lond. Vol. I. London: Macmillan and Co., Limited. 1905. Pp. xvi.–1210. Price 25s. net.

IN the ten years which have elapsed since the publication of the first volume of Professor Clifford Allbutt's well-known "System of Medicine" naturally considerable advances have been made in reference to most of the subjects dealt with in it and therefore the appearance of a second edition will be welcomed by the large body of workers to whom it has served as an exhaustive work of reference and an authoritative presentation of the position of medical knowledge. From the preface we gather that it is intended to revise and to republish one volume each year and thus gradually to replace the original edition by the new. In the preparation of this present edition Professor Allbutt has the assistance of Dr. H. D. Rolleston whose name now appears on the title page. We may felicitate Professor Allbutt on his choice of a co-editor, for Dr. Rolleston's wide pathological and clinical experience, as well as his literary attainments, render him peculiarly fitted for the task. The success which it has achieved and its unrivalled excellence as a work of reference are a credit alike to Professor Allbutt and his co-workers. Moreover, for conciseness and yet fulness, for convenience of reference, and for comprehensiveness it challenges comparison with most, if not all, of the large works of reference by foreign authors. It has supplied a need, and the appearance of this new edition is timely, for the striking advances of the past decade needed collating and codifying for purposes of reference.

Considerable alterations have been made in the arrangement of the subjects dealt with in this volume, several new articles have been added, others have been transferred to later volumes, and yet others have been modified or extended, with the result that it is larger than its predecessor by over 200 pages. Within the limits of the space at our disposal it is impossible adequately to review this really great work, or even to enumerate the articles or rather monographs which it contains; we must therefore confine ourselves to noting the changes which have been made in it. The introduction by Professor Allbutt with which the first edition commenced has been omitted, which we are tempted to regret (though, no doubt, it has been sacrificed to the exigencies of space) for it was a scholarly, thoughtful, and suggestive examination of the general principles upon which the science and practice of medicine are, or rather should be, based. Its place is, however, taken by an article on the History of Medicine divided into two parts, the first of which deals with medicine in ancient times and is contributed by Professor Allbutt himself in his usual refined, graceful, and instructive style. The second section, by Dr. J. F. Payne, devoted to medicine in modern Europe, is, as might be expected from so eminent an authority, a most able and comprehensive, though necessarily brief, summary of the gradual evolution of the present methods from the darkness, superstition, and ignorance of the Dark Ages. We read with great interest Dr. Payne's account of Sydenham, the "English Hippocrates" as he has been called, and of the originality and genius of his methods. This joint article is a valuable addition to the work and we are glad that Professor Allbutt has modified his view expressed in the preface to the former edition that the story of medicine has been but a melancholy study. This article forms the first in the prolegomena and is followed by one on Medical Statistics by Dr. J. F. W. Tatham in place of that contributed to the first edition by Dr. J. S. Billings. Dr. Tatham's article is thoughtful, lucid, and suggestive, and is illustrated by frequent reference to the mortality tables for various diseases. The influence of occupation on the mortality of certain diseases is also studied.

Dr. F. G. Clemow contributes an article on Medical Geography which replaces that on the Medical Geography of Great Britain by the late Mr. A. Haviland. This subject is one of comparatively recent growth and, as Dr. Clemow points out, it needs to be supplemented by a study of medical history, especially in regard to diseases of an epidemic character. He justly draws attention to the fact that Great Britain has been the pioneer in the study of this important subject and that to British observers are due some of the most striking advances in this department of knowledge.

A new article has been introduced on the subject of old age and is in two parts. The first is by Dr. F. Parkes Weber on the physiology and pathology of old age, in which the chief retrograde changes and histological and other alterations incidental to advancing years are portrayed as they affect the various systems and organs. The second part, by Sir Hermann Weber, deals

with the prevention of premature old age and the prolongation of life to its natural term. It is chiefly devoted to the recommendation of simple hygienic and dietetic rules. Sir Hermann Weber's remarks that "the habit of sleeping much—viz., over eight hours—is often more injurious and shortens life more frequently than sleeping only five hours, since it causes diminution of the activity and elasticity of the arterioles of the brain and in consequence a tendency to thrombosis or hæmorrhage or early degeneration of the mental faculties," seem to us an *ex cathedrâ* statement which it would be difficult to justify scientifically.

The article on Dietetics has been considerably altered and a section dealing with the physiological principles of dietetics by Dr. R. Hutchison has been added to it. This constitutes a concise and clear statement of the relative value of foods with the modifications in diet necessitated by various conditions and includes an account of the characters of the principal foodstuffs. In referring to Professor Chittenden's interesting researches on physiological economy in nutrition, Dr. Hutchison expresses the view that further experience is needed before it is proved that his results are true for an indefinite period of time, but that if this proves to be the case the conclusion that the usual dietary standards are too high will be inevitable.

The section on the Feeding of the Sick is contributed, as in the last edition, by Sir Dyce Duckworth. Various modified diets are discussed, including the so-called zomotherapy or raw meat diet, and the indications for them are given. The article on the Principles of Drug Therapeutics, written by the late Dr. D. J. Leech, has been revised by Sir Lauder Brunton and is a very thoughtful and suggestive presentation of the principles of rational therapeutics and the application of pharmacological experience to the treatment of disease.

An addition to the present volume is the important and useful article on Physical Exercises by Mr. E. M. Corner, which is divided into three sections, the first of which deals with the physiology of exercise and is a forcibly-worded plea for a wider application of muscular exercises, especially those of the respiratory system, in our educational system. Mr. Corner says: "In early life our minds are carefully instructed and trained by highly educated men, but our bodies are allowed to develop according to the inclinations of their owners. Exercise is encouraged by all authorities but the use made of the opportunities supplied rests with the individual, who will utilise it or shirk it according to fancy." The second section deals with the actual exercises and systems of exercises which are in use, while the third is devoted to their application to various conditions of disease or deformity.

A further addition to the present volume is an article on the X Rays in Medicine by Dr. Francis H. Williams. It deals with the methods employed and their application in the diagnosis and treatment of disease. The uses of this form of examination in the diagnosis of diseases of the chest are carefully described and clearly illustrated, while the article as a whole is a valuable summary of the present state of our knowledge of the subject.

The article on the General Pathology of New Growths, by Dr. F. W. Andrewes, replaces that on the same subject by Mr. S. G. Shattock and Mr. C. A. Ballance in the former edition. It constitutes a very comprehensive and masterly survey of a most difficult subject and is a most valuable monograph. The cytology of malignant growths and the various theories and explanations of tumour formation are intelligibly presented and critically considered. Dr. Andrewes's article is a noteworthy addition to the literature of the subject. A further addition to the prolegomena is an article on the Clinical Examination of the Blood and its Significance, by Dr. J. H. Drysdale. The various methods for the examination of the blood are carefully described and their indications considered. The article is well illustrated and the varieties of the corpuscles, both red and white, are excellently portrayed on a double-page coloured plate. The directions for preparing the stains employed in the preparation of blood films are clear and practical and the method of using them is given in each case.

The article on Fever by the late Sir J. Burdon Sanderson has been extended by the addition of a section on physiological considerations in regard to fever by Dr. M. S. Pembrey and another on clinical considerations and treatment by Dr. W. Hale White, both of which afford a large amount of valuable information.

The second division of this volume, that devoted to the infections, has also been made the subject of some changes. The article on the General Pathology of Infections has been omitted and will appear in an extended form in the second volume. The articles on Puerperal Septic Disease and on Furuncles and Carbuncles have also been left out, while those on Cholera and Plague will appear in a later volume under Tropical Diseases. The article on Aerotherapeutics has also been transferred from this volume to a later one.

In regard to the remaining articles we have found that they have been brought up to date and are most useful for reference. One which may be specially mentioned is the excellent article on Inflammation by Professor J. G. Adami, which contains the record of a great deal of new work and is one of the most able expositions of the subject with which we are acquainted.

As a whole, the work is one of which the profession of medicine in this country may well be proud and one which, like its predecessor, will be of great value to the investigator and the practitioner who desires to keep himself informed of the advances in medical knowledge and to have the current state of that knowledge conveniently summarised.

Untersuchungs- und Behandlungs-methoden der Kehlkopfkrankheiten. (Methods of Exploration and Treatment of Diseases of the Larynx.) By Dr. THEODOR HERYNG. Illustrated. Berlin: Julius Springer. 1905. Pp. 388. Price 12 marks.

Dr. Heryng states in his preface that his object has been to set before the student of laryngology the treatment and technique of laryngeal affections in an exhaustive and yet simple manner, while he has also sought to lay before his fellow specialists those facts and methods which an experience of 32 years has shown to be of real practical value. It is interesting to note that after a trial of all forms of electric illumination in the examination of the larynx Dr. Heryng has returned to the use of the Welsbach incandescent mantle as being, on the whole, the most practical and the cheapest light and that which most clearly resembles good daylight. He gives some useful hints as to its management. He speaks approvingly of autoscopy first described by Kirstein as bringing directly into view the deeper parts of the throat, the larynx, and the trachea by means of a special tongue depressor, the neck being placed so as to bring the opening of the mouth and of the larynx into a direct line. Whilst admitting the advantages of autoscopy in many cases, however, Dr. Heryng agrees with Kirstein that it is an art which requires much practice, and he also admits that many patients complain of the process as being rather distressing. Amongst the very large number of chemical products available for local application Dr. Heryng recommends those only which he himself has found to be useful. He has had a considerable experience of various methods of inhalation and of spraying remedies into the upper air passages, trachea and bronchi, and hence can speak with some authority. The subject matter of the book is treated

very fully without being prolix and the work can be recommended as affording a good and practical *résumé* on the matters of which it treats.

Essentials of the Practice of Medicine prepared especially for Students of Medicine. By WILLIAM R. WILLIAMS, A.M., M.D., formerly Instructor in Medicine and Lecturer in Hygiene, Cornell University Medical College; Tutor in Therapeutics, Columbia University, New York. London: Henry Kimpton. 1905. Pp. 460. Price 6*s*.

THE author of this work states that he aims at presenting no new facts but he wishes to emphasise the more common aspects of various diseases. He simply describes what he terms "the average case" of each particular malady because he apparently believes that this is the way in which to teach the student the practical part of his profession. We cannot agree with Dr. Williams in this respect. The "average case" ought certainly to be impressed upon the student's memory but he will require to know a great deal more than that if he wishes to succeed in his profession. It may be argued that a text-book of this character is simply to prepare a student for his examinations but to be worthy of its name a manual of medicine should have higher aims than this and should be an aid in preparing the future medical practitioner for the actual practice of his profession. Dr. Williams's book certainly cannot replace the larger standard works which a student will be better advised to use, although he may refresh his memory by a reference to its pages shortly before presenting himself for his examination. At the end of each section are arranged a few questions, so that the student can judge for himself whether he has thoroughly understood what he has been reading. He can also from time to time test his memory by referring to these questions and can study those subjects in which he finds his knowledge to be defective. The book is well printed on good paper and the frequent use of heavy type adds to the facility of reference.

LIBRARY TABLE.

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with the prevention of premature old age and the prolongation of life to its natural term. It is chiefly devoted to the recommendation of simple hygienic and dietetic rules. Sir Hermann Weber's remarks that "the habit of sleeping much—viz., over eight hours—is often more injurious and shortens life more frequently than sleeping only five hours, since it causes diminution of the activity and elasticity of the arterioles of the brain and in consequence a tendency to thrombosis or hæmorrhage or early degeneration of the mental faculties," seem to us an *ex cathedrâ* statement which it would be difficult to justify scientifically.

The article on Dietetics has been considerably altered and a section dealing with the physiological principles of dietetics by Dr. R. Hutchison has been added to it. This constitutes a concise and clear statement of the relative value of foods with the modifications in diet necessitated by various conditions and includes an account of the characters of the principal foodstuffs. In referring to Professor Chittenden's interesting researches on physiological economy in nutrition, Dr. Hutchison expresses the view that further experience is needed before it is proved that his results are true for an indefinite period of time, but that if this proves to be the case the conclusion that the usual dietary standards are too high will be inevitable.

The section on the Feeding of the Sick is contributed, as in the last edition, by Sir Dyce Duckworth. Various modified diets are discussed, including the so-called zomotherapy or raw meat diet, and the indications for them are given. The article on the Principles of Drug Therapeutics, written by the late Dr. D. J. Leech, has been revised by Sir Lauder Brunton and is a very thoughtful and suggestive presentation of the principles of rational therapeutics and the application of pharmacological experience to the treatment of disease.

An addition to the present volume is the important and useful article on Physical Exercises by Mr. E. M. Corner, which is divided into three sections, the first of which deals with the physiology of exercise and is a forcibly-worded plea for a wider application of muscular exercises, especially those of the respiratory system, in our educational system. Mr. Corner says: "In early life our minds are carefully instructed and trained by highly educated men, but our bodies are allowed to develop according to the inclinations of their owners. Exercise is encouraged by all authorities but the use made of the opportunities supplied rests with the individual, who will utilise it or shirk it according to fancy." The second section deals with the actual exercises and systems of exercises which are in use, while the third is devoted to their application to various conditions of disease or deformity.

A further addition to the present volume is an article on the X Rays in Medicine by Dr. Francis H. Williams. It deals with the methods employed and their application in the diagnosis and treatment of disease. The uses of this form of examination in the diagnosis of diseases of the chest are carefully described and clearly illustrated, while the article as a whole is a valuable summary of the present state of our knowledge of the subject.

The article on the General Pathology of New Growths, by Dr. F. W. Andrewes, replaces that on the same subject by Mr. S. G. Shattock and Mr. C. A. Ballance in the former edition. It constitutes a very comprehensive and masterly survey of a most difficult subject and is a most valuable monograph. The cytology of malignant growths and the various theories and explanations of tumour formation are intelligibly presented and critically considered. Dr. Andrewes's article is a noteworthy addition to the literature of the subject. A further addition to the prolegomena is an article on the Clinical Examination of the Blood and its Significance, by Dr. J. H. Drysdale. The various methods for the examination of the blood are carefully described and their indications considered. The article is well illustrated and the varieties of the corpuscles, both red and white, are excellently portrayed on a double-page coloured plate. The directions for preparing the stains employed in the preparation of blood films are clear and practical and the method of using them is given in each case.

The article on Fever by the late Sir J. Burdon Sanderson has been extended by the addition of a section on physiological considerations in regard to fever by Dr. M. S. Pembrey and another on clinical considerations and treatment by Dr. W. Hale White, both of which afford a large amount of valuable information.

The second division of this volume, that devoted to the infections, has also been made the subject of some changes. The article on the General Pathology of Infections has been omitted and will appear in an extended form in the second volume. The articles on Puerperal Septic Disease and on Furuncles and Carbuncles have also been left out, while those on Cholera and Plague will appear in a later volume under Tropical Diseases. The article on Aerotherapeutics has also been transferred from this volume to a later one.

In regard to the remaining articles we have found that they have been brought up to date and are most useful for reference. One which may be specially mentioned is the excellent article on Inflammation by Professor J. G. Adami, which contains the record of a great deal of new work and is one of the most able expositions of the subject with which we are acquainted.

As a whole, the work is one of which the profession of medicine in this country may well be proud and one which, like its predecessor, will be of great value to the investigator and the practitioner who desires to keep himself informed of the advances in medical knowledge and to have the current state of that knowledge conveniently summarised.

Untersuchungs- und Behandlungs-methoden der Kehlkopfkrankheiten. (*Methods of Exploration and Treatment of Diseases of the Larynx.*) By Dr. THEODOR HERYNG. Illustrated. Berlin: Julius Springer. 1905. Pp. 388. Price 12 marks.

Dr. Heryng states in his preface that his object has been to set before the student of laryngology the treatment and technique of laryngeal affections in an exhaustive and yet simple manner, while he has also sought to lay before his fellow specialists those facts and methods which an experience of 32 years has shown to be of real practical value. It is interesting to note that after a trial of all forms of electric illumination in the examination of the larynx Dr. Heryng has returned to the use of the Welsbach incandescent mantle as being, on the whole, the most practical and the cheapest light and that which most clearly resembles good daylight. He gives some useful hints as to its management. He speaks approvingly of autoscopy first described by Kirstein as bringing directly into view the deeper parts of the throat, the larynx, and the trachea by means of a special tongue depressor, the neck being placed so as to bring the opening of the mouth and of the larynx into a direct line. Whilst admitting the advantages of autoscopy in many cases, however, Dr. Heryng agrees with Kirstein that it is an art which requires much practice, and he also admits that many patients complain of the process as being rather distressing. Amongst the very large number of chemical products available for local application Dr. Heryng recommends those only which he himself has found to be useful. He has had a considerable experience of various methods of inhalation and of spraying remedies into the upper air passages, trachea and bronchi, and hence can speak with some authority. The subject matter of the book is treated

very fully without being prolix and the work can be recommended as affording a good and practical *résumé* on the matters of which it treats.

Essentials of the Practice of Medicine prepared especially for Students of Medicine. By WILLIAM R. WILLIAMS, A.M., M.D., formerly Instructor in Medicine and Lecturer in Hygiene, Cornell University Medical College; Tutor in Therapeutics, Columbia University, New York. London: Henry Kimpton. 1905. Pp. 460. Price 6*s*.

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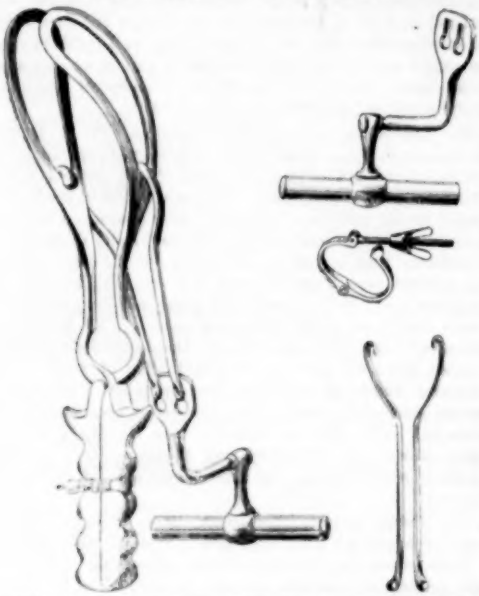
future editions the diet-sheets of the "public" schools and the names of the medical men who either as official medical officers or otherwise can be consulted upon all sanitary points in relation to each school.

The Cambridge Year-Book and Directory, 1906. London: Swan Sonnenschein and Co. Pp. 784. Price 5*s*.—This directory gives the Christian names and surnames, colleges, degrees, and present addresses of all those living graduates of the University concerning whom the editor has been able to obtain the necessary information. We have tested the book carefully and while we admit its obvious utility we doubt whether so high a percentage of correct identification has been obtained as is claimed in the preface, where the editor suggests that all but "something under 5 per cent." are traced. The directory, however, has obvious uses and the editor has a right to expect assistance from Cambridge men both in correcting slips in the names that he has obtained and in furnishing names that have so far escaped entry. Such outside assistance should immediately make the directory a valuable compilation.

New Inventions.

AN AXIS-TRACTION ATTACHMENT FOR ORDINARY OBSTETRIC FORCEPS.

THE accompanying illustrations show an axis-traction forceps made to my design by the Holborn Surgical Instrument Co., Limited, 26, Thavies Inn, London, E.C. It is an ordinary Barnes-Simpson pattern of forceps fitted with a removeable clamp and outside traction rods with handle, the latter having a universal joint. The method of attaching the



tractors is simple and no alteration is required in any standard pattern of forceps. All extra parts are loose for cleaning and their total weight is about one and a quarter pounds. They can always be carried in the midwifery bag and provide a method of using the ordinary forceps for axis-traction without the necessity of possessing a special instrument.

FRED. W. JAMES, M.R.C.S. Eng.

Pitfield-street, N.

AN ADJUSTABLE GREAT-COAT FOR WALKING OR DRIVING.

EVERYBODY who has ever worn a great-coat knows that although the opening in front may be closed when the wearer stands up when he sits down there is a gap. When the wearer is driving a horse-drawn vehicle or a motor car this offers every opportunity for draughts to play upon the legs and the lower part of the abdomen unless the wearer is protected by a rug, and this, in the case of driving a motor car, is very much in the way. We have recently inspected a great-coat which seems to us to obviate the disadvantages of the ordinary great-coat. By means of what is known as a box-pleat the skirt of the coat entirely covers the knees and the feet when the wearer is sitting while affording perfect liberty to the legs. When standing up the coat

Showing coat arranged for driving.

looks just like an ordinary great-coat. The illustration explains the construction of the coat better than any amount of description. It is made by Messrs. John Robeson and Co., 196, Aldersgate-street, London, E.C., and seems to us to be a praiseworthy invention.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 5th, 1828.

SYPHILIS COMMUNICATED BY LEECHES.*

In a Journal entitled *Westphaelischer Anzeiger*, a physician relates a case in which leeches, used at first on a person affected with syphilis, and again employed on a child, communicated the disease to it. It is, therefore, necessary to know, when leeches are employed a second time, on whom they have been previously applied.

THE "DIVINE" DOCTOR.

In one of the by-laws of the College of Physicians it is required, that the *purchasers* of degrees should spend at least two years in an university, before they can be admitted into the body corporate, hence JEMMY JOHNSTONE, and all the other ABERDEEN DUBBS, were obliged to abscond to some seat of learning before they could become licentiates. The M.D. of "divine" origin, Charles Mansfield Clarke, Accoucheur and Bat, never having entered the precincts of an university, cannot be associated with the Dowagers of Pall Mall East, without this law being "discharged."

TO CORRESPONDENTS.

The "Cock Sparrow" has not commenced an action against THE LANCET; at any rate, he has sense enough not to do *that*.

* Notizen a.d. Gebiete der Natur. und Heilkunde, tom. xviii. No 7, p. 111.

THE LANCET.

LONDON: SATURDAY, APRIL 7, 1906.

The Workmen's Compensation Bill.

IN the House of Commons on March 26th the Home Secretary introduced a Bill "to consolidate and amend the law with respect to compensation to workmen for injuries suffered in the course of their employment." Mr. GLADSTONE'S proposals on the whole met with a favourable reception from both sides of the House and the Bill was read for the first time. Briefly, the new Bill seeks to extend the Workmen's Compensation Acts of 1897 and 1900 to every class of labour. The expression "workman," however, is to include every person not being a member of a police force, a clerk, a shop assistant, an outworker, a domestic servant, or a member of the employer's family dwelling in his house who has entered into, or works under, a contract of service or apprenticeship with an employer. Not only, therefore, are workmen employed in workshops to be brought under the operation of the Act but also those employed in the transport service, as well as fishermen, postmen, and seamen. Doubtless the promoters of the Bill have their reasons for excluding clerks, shop assistants, and domestic servants from the provision of the Act, but by what validity of reasoning these persons should not share the same advantages which the Act seeks to offer to "workmen" we fail to see. All three classes of labour—the clerk, the shop assistant, and the domestic servant—represent a very large and deserving section of the labouring community, and, moreover, their occupation, as experience has shown, is not unattended with risk. Further, it is difficult to understand why the Act should not apply in any case where the employer proves that the number of workmen employed by him at the time of accident did not exceed five unless the accident was attributable to the use by the employer of machinery driven by steam, water, or other power, or unless the workman at the time of the accident was employed in the care or management of horses or in mining, quarrying, or building operations, or in laying or repairing any electric line or work. We imagine that although the limit of five will not be made to apply to cases where machinery is used, there might be conceivably cases in which even the workmen engaged by the small employer are exposed to accident, although the nature of the work may not be such as to involve the use of dangerous machinery. The Bill, however, as Mr. GLADSTONE was careful to state, was not, and could not, be final, and when the Government had seen how it worked fresh proposals might be made to make up proved deficiencies, to extend its operations to other classes, and to get rid of limitations.

One of the most important extensions in the Act is the proposed application of its provisions to industrial diseases. The third schedule gives a list of these diseases as follows: anthrax (derived from wool-combing or sorting and the handling of hides and skins), lead poisoning (arising from any process involving the use of lead compounds), mercury poisoning (originating from the use of mercury compounds), phosphorus poisoning, arsenic poisoning, and ankylostomiasis (mining). We have for several years insisted, at all events, in the case of lead poisoning in the potteries, that the manufacturers should be compelled to compensate their workmen who through no fault of their own are exposed to the poisonous action of raw lead compounds and who develop "plumbism." We suggested also that those potters who adopted leadless glazes or at least harmless lead compounds (the so-called "frits") should be exempt from the requirements of the Act. Industrial poisoning, it is obvious, cannot be placed on the same footing as an accident. The date of the latter can be fixed with certainty but it might be difficult to say when metallic poisoning was contracted, and it might even be possible for an operative to contract the disease under the roof of one employer and to develop it under that of another. Either employer, knowing these facts, would be ready to deny responsibility and it would not be easy to determine in every case on whom the penalty of compensation should fall. The onus of proof will be thrown on a medical referee appointed by the State, for Clause 11 states that the Secretary of State may appoint such legally qualified medical practitioners to be medical referees for the purposes of the Act as he may determine, and the remuneration of, and other expenses incurred by, medical referees shall, subject to regulations made by the Treasury, be paid out of moneys provided by Parliament. Remuneration is to come from the same source when a medical man is summoned to sit with the judge of a county court as a referee. On a workman giving notice of an accident he shall, if required by his employer, submit himself for examination by a duly qualified medical practitioner provided and paid by the employer. In the event of a disagreement arising between the employer and the workman as to the fitness for work of the latter the matter is to be taken to the State medical referee. If the workman refuses to submit himself for this purpose it is proposed to suspend his right to compensation until such examination has taken place.

One other point calls for comment and that is with regard to the payment of compensation. Under the existing law an application for compensation cannot be made until a fortnight has elapsed from the time of the accident. It is now proposed to reduce this interval by at least one week, so that deserving sufferers may not be deprived of the first week's payment of compensation. On the other hand, this step will greatly increase the cost of compensation, and there are a good many accidents which involve less than a fortnight's illness. Moreover, if by reducing the period which must elapse after an accident before compensation can be claimed fraud and malingering are encouraged, it is evident that no concession of shorter time ought to be given. In the House of Commons on Wednesday a discussion on the second reading of the Bill took place, when Mr. GLADSTONE stated that if the House desired the proposals of the Bill could be extended, while some scheme of compulsory insurance, he thought, would ultimately be necessary.

The Education of Crippled and Mentally Defective Children.

WE have received a copy of a report made to the Manchester education committee by Dr. HENRY ASHBY on the special schools for the mentally and physically defective children of that city. This annual report, the third of a series, though only of six pages is of considerable interest and contains valuable information of the methods adopted and the results obtained. There are three special day schools for mentally defective children, affording accommodation for 218 pupils. During the year 1905 263 children attended these schools and Dr. ASHBY is able to report that the school work has been conducted with great enthusiasm and interest by the teachers and that a marked improvement in attainments and conduct has taken place as regards the children. It is gratifying, also, to find that the parents are beginning to recognise the useful character of these schools and that there have been very few instances of their refusing to allow their children to attend or withdrawing them; indeed, in some instances the parents have voluntarily brought their children for examination and admission when they were conscious that there was some defect in the capacity for learning. Seven of the children were transferred from these day schools to the Sandlebridge boarding schools belonging to the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded, as being more suited for a residential school. Seven epileptics were transferred to the David Lewis Epileptic Colony owing to the severity or frequency of their fits. Seven cases were discharged as too feeble-minded to benefit much at a day school.

During the year 13 children who were 14 years of age were allowed to leave at the wish of their parents with the object of trying to obtain work; six of these were boys and seven were girls. Of these six boys three are working and doing well; one of them is earning 10s. a week, with good prospects, while the other two are earning 5s. or 6s. a week; the remaining three have failed as yet to secure permanent work. Of the seven girls four are working and doing well, two cannot be traced, and one has left the district. Of the four who are at work one is cap making, one is doing needlework, and two are engaged in housework at home. During the present year Dr. ASHBY anticipates that from 20 to 30 children will be leaving school and he is very anxious to trace their careers and their future prospects. He is of opinion that it is futile to admit to these schools the lower class of defectives or border-land imbeciles, since although the training and good example are beneficial yet they learn but little from school books and as their powers of retention are so feeble no permanent results are achieved. On the other hand, he regards it as probable that a certain proportion of those passing through the schools will be eventually able to earn their own living, especially if they are sent to the special schools when they are seven years of age and if simple handicraft trades such as basket-making, caning chairs, and mat- and toy-making are taught to them by practical teachers. Some of them, however, from lack of initiative and intelligence will degenerate after leaving and these are more fitted for colony life where the conditions of example and discipline similar to those of the schools are maintained.

In regard to the instruction of crippled or physically defective children prevented from attending the ordinary schools the Manchester education committee has set an excellent example to other educational authorities. During the year 1905 a residential school for crippled children was opened at Swinton House with accommodation for 30 children. A special and noteworthy feature of this school is that it works in conjunction with the children's hospitals and continues the treatment while providing some education. In the few months during which this school has been at work 34 children were admitted, all suffering from some chronic disease, paralysis, or deformity which was of such a degree as to prevent their attendance at a day school. For the most part, though of quite average mental powers, they were very backward and in some instances had received no school instruction whatever. Of these 34 children, 14 had spinal deformity, ten deformity from disease of the hip, five had severe deformities due to rickets, three were paralysed, and two had old disease of the knee. Six of them were temporarily transferred to the Children's Hospital for operation, the parents' consent having first been obtained. Many of the children were confined to bed, while others were enabled to get about on crutches. In nearly all cases they improved notably in health and made good progress in their school work. We understand that this school is the first of its kind in this country and the Manchester education committee is to be congratulated on its scheme for dealing with a difficult problem and on its wisdom in securing the coöperation of the medical man and the school teacher to lessen the disabilities inflicted on these children by heredity, disease, or misfortune. In the past many of these defectives, from lack of the special care now provided, instead of becoming useful and productive members of society as they are capable of doing, have been chargeable to their relatives or to the community for their support. The attempt to ameliorate their lot deserves the sympathy of all. Dr. ASHBY'S report is a most suggestive and thoughtful pamphlet and deserves careful and attentive study by educational authorities elsewhere.

Our Military Medical Service in Peace and War.

AN interesting and instructive debate took place in the House of Commons recently on the Army Estimates in connexion with the vote of £490,000 for the Army Medical Establishment and Service. Several Members took part in the debate, and it may be hoped that the feeling is becoming more general in Parliament that the condition of the Army Medical Service is an affair of national importance. The debate elicited a good speech from Mr. BURDETT-COUTTS and an important statement from the present Secretary of State for War. Like the far greater problem of how to guard against our unpreparedness for war generally and how to supply the regular army of the future with an adequate reserve—the need of which was perhaps the supreme

lesson of the late campaign in South Africa—the problem of how to secure an adequate medical reserve in order to fulfil the requirements of modern war is likewise pressing for solution. Mr. HALDANE, in outlining what would probably be his future policy in this respect, was careful to emphasise the self-evident fact that no nation can sustain the financial burden of keeping the army generally in time of peace on a level with what would be required in time of war. Obvious as this is, it seems to be forgotten by some of the critics of our national supineness who, in their sensible desire not to let us live in a fool's paradise, are perpetually contemplating war preparations on such permanent and prodigious scales that the practical politician becomes justified in treating them as alarmists, and, which is more important, in buttoning up his pockets. But the present moment happens to be exactly a time when such questions can be discussed with calmness by all sections of thought. At peace with the world but fresh from a long and terribly expensive war, the results of which still influence our daily lives, we can all see that the economy, or the carelessness, which lives on from day to day, taking no heed of possible trouble in the future, is, for practical purposes, a most dangerous form of extravagance. At the same time, we must all feel the necessity of watching jealously the expenditure of every penny of public money.

The difficulty is to apply these two sagacious frames of mind to the production of one scheme whereby, considering now the single question of medical organisation, we may create and pay for an adequate medical reserve. This is too difficult and intricate a problem to be left for solution to the discretion of any purely military department. In case of failure it is the medical service, as all previous experience shows, that will be blamed and not any adjutant-general or purely military body or authority, and it consequently follows that some medical representative, instead of being relegated to any subordinate office, should be placed in such a position at the councils of the War Office as will officially secure a due amount of influence and attention. This alone will insure some power of scientific initiative in dealing with our medical preparedness for war. The duties and responsibilities of a medical military service should be recognised as of an exceptional nature; the grave difficulties of all sorts with which the medical officer in the army is surrounded will have to be taken into account more fully in the future. The medical officer in the army is a unit in a killing machine who is engaged in saving life; he is ordered by accepted science to do certain things which military exigencies prevent him from doing; his position must be more sympathetically regarded. But to return to Mr. HALDANE'S proposals in regard to the formation of an Army Medical Reserve which were briefly summarised in THE LANCET of March 31st, p. 923, and additional particulars as to which are given in our present issue (Parliamentary Intelligence, p. 1010), it is proposed to take 450 young medical men willing to enter the new Army Medical Reserve and to train them on the regulations and terms laid down. The progress of the experiment—for it is at present of that nature—will be watched with much interest; meanwhile, we can only hope that it may have a fair trial and prove to be popular and successful. It is at any rate a beginning and serves to show that the War Office takes some official cognisance of the fact that an army medical reserve has to be created and organised. But to anyone who realises the amount of medical aid required for a really big war the magnitude and difficulty of the task assume quite another aspect. There is, indeed, need "to think imperially" on the subject, and with the recent publication of a census of the British Empire we have the material for the largest of deliberations. With the enormous material forces that are potentially available for the purpose of imperial defence and for the organised unification of an imperial medical service as an integral part thereof, it should not pass the wit of man to devise some bold and big scheme for that purpose, but all the factors must be taken into due account and the position of the medical officer, subject alike to the dictates of science and the discipline of the army, must be carefully and sympathetically weighed.

The experiences of the South African war provide us with numerous examples of the gravity with which the medical position must be regarded in times of war—examples, in other words, of the gravity with which preparations should be made in times of peace. In the recent debate upon the army estimates Mr. BURDETT-COUTTS, who, as might naturally have been anticipated on such an occasion as that of the Army Medical Vote, took an active part in the proceedings, delivered an excellent speech in which he touched upon many of the old points which he thought worth the attention of a House of Commons containing so many new Members. We agree with him that the lessons of the South African war cannot be too often studied, especially as those lessons have not yet been acted upon in many practical ways. The story of the war must not be held as ancient history until a general knowledge of the medical events of that campaign has led to improved methods in the future. We have only to read the graphic description which Lord ROBERTS has so recently given of the conditions that obtained in that campaign to realise the situation. The theatre of the Boer war was of unparalleled extent and, as regards supplies, of equally unparalleled emptiness, and the vast business of transport had to be worked for the greater part of the way over a single track of railway passing through desolate regions and vulnerable at every point by a hostile, elusive, and most mobile enemy; a block on this vital artery of operations meant starvation to the troops, to save them from which all hospital *personnel*, material, and supplies had temporarily to be cut off; and coincident with this occurrence an epidemic of enteric fever took place in an exhausted army arriving at Bloemfontein. In what respect was the medical service to blame for so deplorable a series of occurrences? While there still was railway transport available for the medical service, the work done by it was the one bright spot of the war. When the difficulties of transport arising out of the military situation became insuperable so far as the practice of scientific medicine was concerned nothing more could be done. But in the future there must be better provision against such contingencies and a more just feeling as to what are the medical responsibilities in times of war. One of the main teachings of the South African war

is that the formation of an army medical reserve is imperative, and we believe that the country will not find the task of its creation difficult if the medical profession feels that it can rely upon an intelligent attitude on the part of the military authorities. But this attitude is absolutely necessary.

Annotations.

"Ne quid nimis."

THE METROPOLITAN ASYLUMS BOARD AND SANATORIUMS FOR CONSUMPTION.

IN a leading article in THE LANCET of Feb. 24th last, p. 534, we discussed a proposal made by Sir William Broadbent that the Metropolitan Asylums Board should "constitute itself" the "tuberculosis authority" for the metropolis and we pointed out that, desirable as certain aspects of the proposal might possibly prove from a purely humanitarian standpoint, there were obvious drawbacks to the scheme as a whole which rendered it administratively impracticable and inexpedient. It was suggested, in fact, that what would in effect have been a new sanitary authority should be created in the metropolis to deal with one disease alone, and this notwithstanding the fact that the borough councils, or rather their predecessors, were created largely for the purpose of controlling, except in so far as actual isolation is concerned, the infectious diseases occurring in their districts. We are not, therefore, altogether surprised to find that the Local Government Board, to which the question of the provision of sanatoriums was referred by the Asylums Board, after having devoted much careful consideration to the subject, has replied that the information at present before it does not appear to afford sufficient justification for the very heavy outlay which would be involved in the proposal. The Board also inclosed with its reply a copy of a communication which Sir William Broadbent has addressed to Mr. Burns in which he practically withdraws the specific proposal which he had outlined and which, we gather, was made under some misapprehension of existing sanitary administration in the metropolis. Sir William Broadbent is now of opinion that the Metropolitan Asylums Board is too extensively associated with Poor-law administration to act as a tuberculosis authority for non-pauper cases and he was, he adds, misled by the fact that cases of infectious disease are sent to the hospitals of the Asylums Board whether or not such cases belong to the pauper classes and he was not, he states, aware that the Metropolitan Asylums Board, being elected by the guardians, is unable to exercise the coördinating authority which he had in view. As we have already expressed our views upon the subject we do not propose to discuss the matter at any length at the present moment. It is, however, clear to us that the expenditure involved would have ultimately become enormous, seeing that it would have led eventually to the general provision both of sanatoriums and of homes for advanced cases as well as to a material addition to the sanitary administration in the metropolis. We think, therefore, that the Board has done wisely in waiting for further information as to the many aspects of the problem before officially sanctioning an experiment with a population of some 5,000,000 people, more especially in face of the criticisms which are being made as to the influence of hospitals in reducing the prevalence of the more highly infectious diseases such as scarlet fever and diphtheria. If, as seems possible, the London public is in the mood to furnish substantial funds for the purpose of endeavouring to hasten the decline in the death-rate from tuberculosis it is desirable that the money should be spent on a well-organised scheme which will be likely to yield the best results.

EMBALMING AND POISONING.

IN his inaugural address before the American Medico-Legal Society on Jan. 17th the President, Dr. Clark Bell, LL.D., directed the attention of members to the legal prevention of the use of poisons in the embalming fluid by undertakers and others. The subject is of the highest importance, since it is well known that criminals have employed agents to inject arsenical and other poisonous solutions into the cavities of the cadaver with a view to prevent the detection of their crime. In some countries restriction has been made relative to the use of arsenic as an embalming medium and many years ago it was forbidden in France. As pointed out by Dr. Bell, there is no certain method by which "arsenic administered by the mouth or rectum which produced death can be detected or discriminated from the arsenic with which the abdominal cavity had been filled contained in the embalming fluid of the undertaker—which had been absorbed by the dead body by imbibition." We shall watch with interest the result of the deliberations of the committee of investigation proposed by the American Medico-Legal Society. The statement is doubtless correct that "it is now demonstrated that a perfectly sure, safe, and reliable embalming fluid can be made without the use of arsenic or any poison or ingredient dangerous to human life." As Dr. Bell observed, there is no reason to believe that the Egyptians relied on poisons in their best work or that they used poisons. It may not be out of place here to give a short historical sketch of the processes of embalming employed at different epochs. The preservation of dead bodies in ancient times was practised by the peoples of both the old and the new world, by the Persians and the Peruvians for example. The latter appeared to have relied on the preservative action of cold, dry, and rarefied air, for they placed the bodies of the Incas to desiccate on the mountains. The Egyptians alone of the ancients employed embalming as a ritual due to the dead. Even with them we can follow the development of the usage, for the sarcophagi of the earliest dynasties did not contain mummies, though skeletons found in some of them had a bituminous odour and were brown in colour, suggesting a primitive attempt at embalming. Herodotus describes three grades of embalming, varying in nature and procedure according to the tariff. In the first or highest class the brain was removed through an opening made in the skull by crushing the ethmoid bone. The organs of the abdomen and thorax after removal were washed with palm wine and treated with aromatics. The cavities of the abdomen and the thorax were filled with cassia, myrrh, and so on. The body was put in natrum—subcarbonate of sodium—for from about one to two months and finally it was swathed with bandages charged with gum. Like other arts, embalming was lost in the dark ages. It was at the commencement of the nineteenth century that chemicals were first employed by Chaussier who recommended that the surface of the body and the inner walls of the great cavities should be treated with a solution of corrosive sublimate. In 1834 Gannal brought to the notice of the Academy of Medicine of Paris his plan of injecting a solution of salt, saltpetre, and alum into the arteries, and so doing away with the necessity of removing the internal organs. Arsenic, zinc chloride, and mercuric chloride have been the minerals most commonly employed for the preservation of dead bodies. By freezing the cadaver can be kept free from putrefaction for an unlimited period without using substances that might by their chemical properties prevent or interfere with toxicological

investigation. For keeping bodies for identification and further observation it is an excellent procedure. The drawback to it is that though practicable it is not very expedient where transportation over long distances is required. There are many preservatives—e.g., formalin—very efficacious in their action which at the same time are little likely to be employed as poisons. We trust that the action taken by the American Medico-Legal Society will lead to legislation which will put an end to a practice by which the criminal law may be violated with comparative impunity.

THE MEDICAL REGISTER FOR 1906.

IN THE LANCET of March 31st we noted the appearance of the Medical Register and made various comments thereupon. Amongst other points we noted that we had checked the first 25 names in the Obituary List of the current Medical Directory and we said: "Of these 25 one is still on the Medical Register." We find that in this respect we have unwittingly done an injustice to those responsible for the accuracy of the official list of the profession which we are anxious to repair. Last year there were two practitioners, doubtless a father and son, bearing identical names. The father is now dead but the son's name remains on the Register and this identity of names led us into an error for which we desire to express our regret.

THE SECOND INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

ANYTHING which tends to bring nations together in friendly conference must receive the support of all those who wish that war could be no more, and the International Congresses on School Hygiene, though not directly organised with the object of establishing peace among the nations, must of necessity tend towards that desirable end, though their immediate purpose is to promote hygienic conditions in schools. On March 30th, in the Jehanghir Hall of the University of London, South Kensington, W., His Grace the Duke of Northumberland presided at a preliminary meeting to arrange the details of the Second International Congress on School Hygiene to be held in London from August 5th to 10th, 1907, under the presidency of Sir Lauder Brunton. It will be remembered that the first Congress was held in Nuremberg in Easter week, 1904, when a large number of representatives of continental societies interested in education attended. The French people, whose interest in school hygiene is very great, wished the second Congress to be held in Paris, but they have magnanimously given way to the wishes of England and, as Sir Lauder Brunton pointed out at the meeting on March 30th, have signified their determination to do all in their power to make the Congress in London a complete success. With the help of our neighbours across the Channel and the promised cordial coöperation of other countries there can be no doubt, as Sir Lauder Brunton said, that the forthcoming Congress will be one of the largest and most important ever held in London. The first motion, which was carried unanimously after being proposed by the Right Hon. Lord Reay and seconded by Canon Lyttelton, headmaster of Eton College, stated:—

That in view of the importance of school hygiene in developing a strong and vigorous race, the necessity for scientific methods being followed in the training of the young, and for hygienic surroundings being supplied in order to promote the health of the children during school life, this meeting, consisting of representatives of educational authorities, medical men, teachers, and others, is unanimously of opinion that it is desirable to hold the Second International Congress in London in August, 1907, to which representatives from India and the colonies should be invited, in addition to representatives from other countries.

Canon Lyttelton, in the course of his remarks, referred to the difficulties which head-masters of secondary schools had in dealing with hygiene in schools owing partly to lack of knowledge on the part of the public and partly to the need of an organisation to which the head-masters could appeal as an authority. On the motion of the chairman it was decided to ask His Majesty the King to extend his Royal patronage to the Congress. Knowing, as everyone does, the interest which His Majesty takes in all matters concerning the welfare of his subjects there is little doubt that he will graciously respond to the wishes of the meeting. An important motion was proposed by Sir Richard Martin, the treasurer of the Congress, namely:—

That in view of the large expenditure involved in organising an international meeting of this character this meeting is of opinion that steps should at once be taken to obtain subscriptions and to open a Congress Fund, and that an appeal should be issued to all those interested to enable the committee to make the Congress not only a success, but worthy of the country whose hospitality the meeting will enjoy.

The estimated amount for expenses is £4000, comparatively a small sum to pay for the undoubted benefits which must result from the holding of the Congress, and we hope that a still larger sum than this may be subscribed in order that there may be a surplus with which to extend the good work. Among the other speakers who supported the movement were Sir John Cockburn, K.C.M.G., Sir William Broadbent, Sir Shirley F. Murphy, and Sir Edward Brabrook, chairman of the organising committee. The offices of the forthcoming Congress are at 72, Margaret-street, W. It may be mentioned that every person interested in promoting the hygiene of school life is eligible for membership upon furnishing the local committee with an exact statement of his or her name, position, title, and address, and paying the subscription of one guinea, or five dollars. A card of membership will be issued entitling the holder to attend all meetings, discussions, and entertainments, to receive the literature and proceedings, and to enjoy all other privileges of the Congress.

EPITHELIOMA DEVELOPING ON AN X RAY SCAR IN A CASE OF LUPUS VULGARIS.

IT is a curious fact that the x rays, though curative in some forms of epithelioma, may be the exciting cause of this disease. In the *British Journal of Dermatology* for March Dr. J. M. H. MacLeod emphasises the necessity of avoiding this danger in the treatment of lupus vulgaris by taking care not to bring about a severe reaction with the production of a telangiectatic scar. He relates the following case. A woman, aged 34 years, had suffered from lupus vulgaris of the face since childhood. She had been treated surgically several times and had subsequently undergone a prolonged course of treatment with the x rays. In June, 1902, she came under his care with a large cicatrix in the right lower half of the face and extending down to the root of the neck. This was evidently the result of severe x-ray dermatitis. It was smooth and pale in the centre but showed a close network of dilated capillaries towards the periphery. Around it was an areola of pigmentation. So far as the destruction of the lupus was concerned the treatment was fairly satisfactory but the disfigurement was great. There were, however, a few foci of active lupus outside the area of scar. These were treated with the Finsen-Reyn lamp. In October the improvement in these lesions was so marked that no definite disease could be detected. In January, 1904, several foci outside the area of scar became active and the Finsen treatment was repeated. At this time the x-ray scar remained sound. In the beginning of 1905 there was a small reddish-brown patch in the centre of the scar at the level where the collar of the dress rubbed against the neck. This patch was of about the size of a sixpence, slightly raised, indurated, and covered by scaly thickened epidermis which was almost verrucose. On pressing the blood out with a diascope there was evidence of underlying granulomatous infiltration. A few exposures

to the rays reduced the granuloma but made no impression on the thickened epidermis. The patient then disappeared for several months. She returned in August with recurrence of the granuloma and the thickening of the epidermis more marked. Several exposures were given but as there was no marked benefit they were discontinued lest they should prove harmful by irritating the epidermis and boric ointment was applied. The patch steadily enlarged, its borders became more raised, and a superficial ulcer formed in the centre from which oozed a sero-sanguineous discharge. In October the patch had increased to the size of a shilling and the margins were so hard that free excision was performed. The wound was healed by the middle of December. Microscopic examination showed for about a quarter of an inch beyond the active growth the characters of a burn from the x rays. In the centre was a rapidly spreading squamous epithelioma with cell-nests. Surrounding the epitheliomatous processes was a dense cellular infiltration consisting chiefly of plasma cells and fibroblasts which was thought to be of tuberculous origin. The development of epithelioma in old lupus vulgaris, though well known, is rare. Its development on an x ray scar which has replaced lupus appears to be not infrequent. Mendes da Costa has recorded seven cases in 72 so treated. Such cases show the necessity of avoiding a severe reaction which is likely to occur in tuberculous tissue.

THE GERM-DESTROYING PROPERTIES OF TOBACCO SMOKE.

IT has often been confidently stated that tobacco smoke is a powerful germicide but so far this property has not been assigned to any one particular constituent of the smoke. The composition of tobacco smoke is, of course, complex but everybody knows that tarry oils are a principal constituent and certainly many oils are powerfully antiseptic. Nicotine, again, is a strong disinfectant but the quantity of this poison in tobacco smoke is minute, if, indeed, it is present at all. At least, in a number of chemical analyses of tobacco smoke made at different times it was difficult to declare with absolute certainty that nicotine was an important constituent. The oily matter which accumulates in a tobacco pipe is decidedly poisonous but it does not contain any appreciable quantity of nicotine, the chief constituent being the very poisonous oil pyridine. Tobacco smoke contains a decided quantity of the very poisonous gas carbon monoxide which has been used for preserving purposes and which therefore must possess germicidal properties. Some simple experiments which we have recently made would seem to confirm the observation that one of the principal constituents accounting for the germicidal properties of tobacco smoke is the powerful antiseptic formaldehyde. The amount present is more than just appreciable, for if water through which a few puffs of tobacco smoke have been passed is tested for formaldehyde the result is strikingly positive. The quantity of formaldehyde in tobacco smoke would appear to depend on the quality and kind of tobacco smoked. Thus the cigar appears to yield more formaldehyde than the pipe and the pipe more than the cigarette. Possibly the peculiarly irritating property of the smoke issuing from the glowing end of a cigarette or cigar or from the bowl of a pipe is due to formaldehyde. It has more than once been stated that tobacco smokers enjoy an immunity from certain diseases and the frequent presence of a powerful antiseptic in the mouth, nasal passages, and sometimes the lungs (as in the case of those who foolishly inhale tobacco smoke), would to some extent justify the statement. When it is considered that in the nose a vast number of microbes are hourly deposited it is conceivable that these may be effectively destroyed by the frequent passage of tobacco smoke through that organ. In the same way the organisms exposed to tobacco smoke in the mouth would succumb. Formaldehyde is one of the most powerful disinfectants we possess, 1 part in 10,000 parts of water serving to destroy all microbes, while such a dilute solution has practically no poisonous action on the human organism. All the same, it is most undesirable that this fact should stimulate the practice of smoking tobacco to absurd excess, for tobacco poisoning is a greater reality than many persons think, and to employ tobacco in abusive quantities for the sake of destroying microbes might amount possibly to killing the seeds of one disease only to contract another.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE, LISBON, 1906.

THE London, Brighton, and South Coast Railway Company gives notice that it is prepared to issue return tickets from London to Irun to members of the International Congress of Medicine and their wives and children. The tickets will be issued until April 19th at the Victoria and London Bridge stations of the London, Brighton, and South Coast Railway, the only formality necessary being the presentation of the *carte d'identité*. The tickets are available for 60 days *viâ* Dieppe, Paris, and Bordeaux. The return fares from London to Irun are £5 15*s* 5*d*. first class and £4 1*s*. second class.

THROMBOSIS OF THE CAVERNOUS SINUS WITH PARALYSIS OF THE CRANIAL NERVES.

IN the *American Journal of the Medical Sciences* for February Dr. W. Zentmayer and Dr. T. H. Weisenburg have published the following remarkable case. A woman, aged 34 years, came under observation with the following history. In childhood she had fairly good health. Menstruation began at the age of 14 years and after two periods of scanty flow ceased for two years. After that it was regular. A short time before the beginning of menstruation the right eye became inflamed and there were some ptosis and proptosis. The inflammation subsided somewhat but at every succeeding period there was a sense of discomfort and fulness in the right eye and later also in the left. The proptosis and ptosis on the right side gradually increased and were most pronounced at the menstrual periods. The patient married at the age of 24 years. Four years later she noticed at the time of a menstrual period that the right eye was more painful and inflamed than ever before, that the proptosis and ptosis were more marked, and that these symptoms, instead of subsiding after the menstrual flow, became, if anything, more pronounced. Later it was found that these ocular symptoms were the first signs of pregnancy. As the pregnancy advanced all the ocular symptoms increased. Twins were born after a difficult labour. The proptosis and ptosis further increased, the latter becoming complete. At each menstrual period the ocular symptoms continued to augment. When the patient came under observation she complained much of headache. There was marked proptosis on the right side, but the globe could be partially replaced by firm pressure. The right third, fourth, and sixth nerves were completely paralysed. Ptosis was complete, but owing to the proptosis there remained a narrow palpebral fissure. The palpebral veins were congested. The pupil was four millimetres in diameter and did not respond to direct or consensual light stimulus. The lids, the conjunctiva, and the cornea were anæsthetic and there was a large corneal opacity. Vision equalled the counting of fingers at one-sixth of a metre. On the left side there were slight limitation of the inward movement of the eyeball and weak nystagmoid action of all the extra-ocular muscles. The pupil measured four millimetres and did not react to direct or consensual light stimulus. Vision equalled $\frac{5}{10}$. In

the right eye there was some atrophy of the optic nerve with but little change in the vessels. In the left eye there was some atrophy of the optic nerve with veiling of its upper and inner margin. The veins were extremely tortuous. Further examination showed that the right fifth nerve was completely paralysed. There was slight paralysis of the right seventh nerve; the forehead was not wrinkled as much or the angle of the mouth drawn up as well on the right side as on the left. The tongue deviated a little to the right and showed fibrillary tremor on both sides and atrophy on the right. The soft palate was slightly but distinctly weak on the right side. The left vocal cord was completely immobile and fixed in the middle line; the right was active but showed weakness in sustained tension. Smell and taste were normal. Thus there were on the right side paralysis or paresis of almost all the cranial nerves and on the left side partial paralysis of the third nerve. The diagnosis of thrombosis of the cavernous sinus best explained the ocular symptoms. Sir William Macewen has shown that in more than half the cases of thrombosis of the cavernous sinus the process extends to the other side by the circular sinus. He considers that this extension serves to differentiate between disease of the cavernous sinus and diseases within the orbit. In the case now reported the evidence of this extension was involvement of the motor nerves of the left eye. The paralysis of the ocular nerves was evidently due to the pressure exerted on them by a thrombus in the cavernous sinus. Extension of the thrombosis backwards into the superior and inferior petrosal sinuses would explain the other paralyses. The superior petrosal sinus on its way to join the lateral sinus crosses the fifth and seventh nerves. The inferior petrosal sinus as it crosses the anterior compartment of the jugular foramen separates the glossopharyngeal from the spinal accessory nerves. Perhaps the disturbance of the circulation caused by thrombosis of the inferior petrosal sinus affected the nuclei of the nerves. The increase of the ocular symptoms at the menstrual periods can be explained by the general disturbance of the circulation which is produced by menstruation.

THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, VENTNOR.

A FESTIVAL dinner in connexion with the above hospital was held in the Whitehall Rooms, Hôtel Métropole, London, on April 3rd. Field-Marshal the Right Hon. Earl Roberts presided. A large number of ladies and gentlemen attended and amongst those present were the Lord Chief Justice of England (the Right Hon. Lord Alverstone) Count Metaxas, and the President of the Royal College of Physicians of London (Sir Richard Douglas Powell). The loyal toasts having been duly honoured, Earl Roberts proposed "Prosperity to the Hospital." He said that he remembered hospitals before the great and beneficent discovery of Lord Lister and he recollected the sufferings which the patients endured before the introduction of the antiseptic system. He then gave a brief account of the history of the hospital and the work that had been accomplished. Established in 1867, the hospital possessed accommodation for 150 patients. It comprised 11 blocks and each patient occupied a separate bedroom. Upwards of 22,000 in-patients had already received the benefits of the institution, many of whom had been enabled to resume their occupations after leaving the hospital. The institution being out of London derived no assistance from King Edward's Hospital Fund. A festival dinner in aid of the hospital had not been held for some years and he hoped the results that night would be as satisfactory as on the occasion ten years ago when Lord Alverstone was in the chair. The next toast was that of "The Board of Management and the Medical Staff," given by Sir Richard Douglas Powell, who said that the members of the board must have something of the Mark Tapley element about them with just a dash of Mr. Micawber, for they dealt with an institution having an income of £11,000 and an expenditure of £14,000, yet did not "wear a worried look." They managed their funds most carefully but always looked for a legacy or a big donation "to turn up." The institution of the aseptic method of treating pulmonary tuberculosis had proved most encouraging. Mr. P. B. Burgoyne (chairman of the board) and Dr. R. Robertson (physician to the hospital) replied. "The Health of the Chairman" was proposed by Lord Alverstone and Earl Roberts, in reply, made the welcome announcement that £2110 had been collected as the result of the dinner and that His Majesty the King had given £50 towards the funds of the hospital. Mr. G. T. Powell (deputy chairman of the board) proposed the toast of "The Visitors, the Ladies, and the Artistes," and Mr. G. C. Miln, Mr. Alan Burgoyne, and Chevalier Wilhelm Ganz responded.

INTERNATIONAL MEDICAL ASSOCIATION FOR THE SUPPRESSION OF WAR.

THE International Medical Association for the Suppression of War was founded a year ago and the annual general meeting was held on March 21st at the headquarters of the association, 25, Rue des Mathurins, Paris. Dr. J. A. Rivière, the President, was in the chair and delivered an address. He said that the world was still to a great extent dominated by views identical with those held by the ancients, and although Mars, the god of war, was no longer an object of public worship yet the ideals associated with his name were firmly established in the minds of the people of all nations. What other explanation was there of the fact that women, whose hearts were full of tenderness and pity, had done nothing to bring about the abolition of war? He had no doubt as to the final triumph of reason and good sense. The breath of truth was as contagious as that of error. In conclusion, he said that international disputes brought before a duly constituted tribunal, the proceedings of which were open, were, in fact, adjudicated on by public opinion. A large number of medical men of many nationalities were present at the meeting and several motions were adopted in accordance with the views enunciated in the president's address.

THE ANTISEPTIC VALUE OF HETRALINE.

WE have received a copy of a dissertation for the degree of Doctor of Medicine by Dr. Ramon Fernandez de Caleya y del Amo, detailing some observations on the antiseptic value of hetraline and comparing it with that of urotropine in septic conditions of the urinary passages. The writer points out that since it has been demonstrated that in the majority of cases cystitis and pyelitis are caused by pathogenic organisms search has been made for antiseptics the action of which, whether by local application or by internal administration, would be sufficiently powerful to destroy the bacteria without damaging the tissues. He mentions urotropine as being the most satisfactory hitherto employed and then proceeds to give his experience of another preparation—hetraline. The chemical term for this substance is dioxybenzoylhexamethylenetetramine; it crystallises in needles which are soluble in cold water (1 in 14) and in alcohol but far more readily in hot water (1 in 4). It has a sweet, agreeable taste. The conclusion arrived at is that the preparation is a good urinary disinfectant, as powerful as urotropine and occasionally superior to it. Hetraline has the advantage of causing no irritation to the tissues, at any rate, in the doses used by the author of the dissertation. The minimum daily quantity is four doses of 0·5 gramme; smaller doses do not yield good results. The bacteria are not destroyed but microscopical examination showed that the organisms had become misshapen and stained badly with methylene blue.

Dr. Fanago observed the same effect when using urotropine: the bacteria did not entirely disappear. When the urine has become clear under the use of hetraline the drug should be continued for a time, since spores probably remain in the tissues and may thus be protected from the action of the hetraline. In gonorrhœa the drug does not seem to be of value, the gonococci not being destroyed by its action. From the reports of the cases given in this pamphlet further trials of hetraline are indicated. The results hitherto obtained seem to be encouraging.

A POISONOUS FLAVOURING AGENT.

WE quite agree with the jury in the following extraordinary case that nitro-benzene should be included in the schedule of poisons under the Pharmacy Act. In a biscuit factory at Truro a boy drank some almond flavouring which resulted in his death. The "essence" proved to be nitro-benzene which appears to be used as a flavouring agent and as a substitute for oil of bitter almonds. Nitro-benzene is a very powerful poison and the inhalation of even small quantities of the vapour has proved fatal. Taken internally, 15 grains have been known to kill an adult, the poisonous symptoms resembling those produced by prussic acid. Spirituous liquids intensify its poisonous action. The use of nitro-benzene in food substances should be prohibited forthwith. This case affords another instance of the impudent disregard so often shown by substitute-mongers for the health of the public and honest dealing.

HOSPITAL APPOINTMENTS AND LIMITATION OF PRIVATE PRACTICE.

As we mentioned in THE LANCET of March 24th at the annual meeting of the governors of the Cardiff Infirmary it was resolved that authority should be given for an addition to the honorary staff of one or more surgeons to the ear, nose, and throat department. As to this portion of the resolution we have nothing to say but it was further resolved that the gentlemen elected to these positions will be required to confine themselves in their private practices to diseases of the ear, nose, and throat. It is always highly desirable that in a hospital the several spheres of practice should be clearly marked out, for if this is not done much ill-feeling may arise, but we are not aware of any previous attempt to limit so closely the private practice of a member of the honorary staff of a hospital. The practising of pharmacy is, of course, often mentioned as not permitted and Members of the Royal College of Physicians of London were at one time not allowed to practise midwifery, but these restrictions are hardly akin to those mentioned above and it is a little difficult to know where to draw the line. For instance, would every disease in which the ear is affected be a disease of the ear? Post-influenzal infection of the mastoid would, we presume, be considered a disease of the ear. Again, if the aural surgeon is performing the complete mastoid operation and he finds reason for thinking that there is a septic thrombosis of the lateral sinus, would he or would he not be allowed to continue the operation so far as to incise the thrombosed sinus or to tie the internal jugular vein? It will be seen that difficulties and doubts may arise as to the limits of even such a special department as the ear, and the same must be the case with diseases of the throat or nose. What are the limits of the throat? The term, we suppose, includes the pharynx, the larynx, and the œsophagus, but how much more it is hard to say. We should like to know who is to be the arbiter as to the boundaries of these special departments; but apart from this point we do not consider the regulation a sound one or calculated to improve the professional position of medical men. It should be left to the individual feeling and discretion of medical men to set limits to the scope of their private practice.

A NEW FORM OF CONSCIENTIOUS OBJECTION.

AT Exeter recently the magistrates refused certificates for exemption from vaccination to an applicant who failed to satisfy them that he had a "conscientious objection" within the meaning of the Act. The person seeking exemption is described in the report before us as Mr. J. McIntosh, a dental surgeon in practice in the city of Exeter, and the ground upon which he made his application was the alleged discovery that vaccination "destroyed the second set of teeth and that was why so many people had bad teeth at the present time. Vaccination set up an eruptive fever just at the time that the second teeth were forming. He had treated 5000 people and 10 per cent. suffered through vaccination." The *Morning Post* informs us that a mandamus was threatened to compel the magistrates to give effect to this statement of the applicant's belief as a conscientious objection. This is a legal question which we must regard as *sub judice*. With regard to the views of Mr. McIntosh and his description as a dental surgeon, it is sufficient to say that his name does not appear upon the Dentists Register for 1906 as of Exeter, nor in the dental section of the Medical Directory for 1906, nor under Exeter in the Dental Annual for 1906. The view held by Mr. McIntosh is not accepted by the large majority of dentists and there is no pathological evidence to support his contention.

"PHILADELPHIA CLINIC FOR THE HOME TREATMENT OF CONSUMPTION."

ATTEMPTS are now being made in several countries to supplement the treatment of hospital patients by an endeavour to improve the hygienic conditions of their domestic surroundings. In order to be successful such an organisation has to be most complete and many difficulties must necessarily stand in the way. We have received a leaflet giving some of the details of a scheme which is to be tried in Philadelphia but unless more elaborate means are adopted the results will probably not be very satisfactory. The originators of the "clinic" point out that the hospitals in Philadelphia are doing their utmost to help in combating the almost unvarying death-rate in that city, but it is clear that they can never solve the whole of the problem. "For if they were to-day enabled to cure the eight or nine thousand consumptives who are annually sick or dying in this city, where hospital room does not exist for 1 in 70 of that number, another crop equally large would spring up to-morrow, unless pauperism, squalor, living in damp, unventilated, and overcrowded dwellings, deficient care while recovering from the effects of colds, of other diseases, and of injuries and unsanitary influences of all sorts are abated at the same time." The latter part of the above quotation would apply to all large cities and some organised endeavour to cope with these difficulties is urgently and constantly needed. The object of the clinic which is to be founded in Philadelphia is to treat the patients in their own homes, when they are able to contribute to their own maintenance, and also to undertake a "general hygienic care of their physical and social interests." Also, it is proposed to examine the members of families in which pulmonary tuberculosis has occurred in order to ascertain whether any of them show evidence of the disease. The board of managers has appointed a staff of physicians who will hold daily clinics between 3 and 4 o'clock every afternoon for the treatment of patients

suffering from diseases of the chest. Those patients who are unable to walk to the clinic will be visited by a physician and by a nurse if necessary. The above intentions are excellent and we wish the promoters of the scheme every success. Full details are not given, however, in the leaflet, but if we are correct in assuming that only one physician is to attend at the clinic for one hour daily but little good can result. The attendance of at least two physicians for three hours or longer daily would be required in order to see the number of patients likely to attend. Doubtless, however, the promoters desire to commence on a small scale, enlarging their labours as funds will permit. The supervision of the treatment in the patients' own homes by means of a large committee of competent persons is being extensively tried in France and elsewhere and most valuable results may be expected. We trust that good results will follow the proposed "clinic" in Philadelphia.

THE SIXTH INTERNATIONAL CONGRESS OF CRIMINAL ANTHROPOLOGY.

"WHAT is genius but organisation?" said Mr. G. H. Lewes. "What is crime but the product of vitiated organisation, congenital or acquired?" say Lombroso and his school. The positive affirmation implied in this latter question is the keynote (writes an Italian correspondent) of the new science of criminal anthropology which at intervals of three years holds its international congress, this time at Turin from April 28th to May 3rd. Sixth in the series, the Congress about to meet has set itself an unusually attractive agenda paper to be worked through by such well-known experts as Max Nordau, Richet, von Hamel, Tamburini, Morselli, and the "bon juge" Magnaud, under the presidency of the ex-Minister of Public Instruction Bianchi and with the intervention of Lombroso himself. Its "inauguration" will take place in the Aula Magna of the University and thereafter its sittings will be held in the Istituto di Anatomia Normale, spacious enough to accommodate the "congressisti" representing the leading nationalities or States of the two hemispheres. The first proceeding after the inaugural address will be the presentation of a testimonial to Cesare Lombroso, on the occasion of his "giubileo scientifico," which also coincides with his nomination as ordinary professor of criminal anthropology in the University of Turin. The testimonial will take the form of a "targa (shield) artistica e simbolica," the work of Bistolfi, a gold medal also designed by the same artist, and an illuminated album containing the signatures of the most eminent votaries of the science of which Lombroso may be called the "hero and eponymus." This ceremony concluded, the Congress will proceed to business and at the close of each day there will be entertainments of one form or another organised by the Municipio, the Circolo degli Artisti, and the Accademia di Medicina, in addition to which Professor Lombroso will receive the "congressisti" at a "serata d'onore" and the "characteristic" Borgo Medioevale will offer the hospitality for which it is noted. Before dispersing the "congressisti" will be conducted on an "escursione artistica" through the Val d'Aosta by the historian of Roma Antiqua, Signor Guglielmo Ferrero, who will give apposite explanations of the celebrated antiquities of the locality. Turin, indeed, is making every effort to insure the success of the Congress—the first international meeting which she has held since the partial destruction by fire of her magnificent library—if only to show her gratitude for the assistance she received towards making good the losses she then sustained—assistance rendered cordially and effectively by sister seats of learning throughout Europe—conspicuous among these being the Universities of Oxford and Cambridge. It may be added that all the information required by intending participants in the Congress may be obtained on applying to the Secretary at the Istituto di Medicina Legale of the Università di Torino, No. 26, Via Michelangelo.

THE EXPERIMENTAL PROPHYLAXIS OF SYPHILIS.

SOME experiments recently described in the *Annales* of the Pasteur Institute are of interest in connexion with the annotation on the Prevention and Early Treatment of Syphilis which was published in THE LANCET of March 17th, p. 775. Having inoculated some monkeys with syphilitic virus, M. Metchnikoff and M. Roux applied friction with a mercurial unguent to the inoculation incisions one hour after they had been made. The subjects remained free from the disease and were subsequently re-inoculated with some of the same virus successfully, whereas the controlling monkeys which had not been subjected to the mercurial inunction in due course developed unmistakeable signs of constitutional syphilis. In some cases a solution of corrosive sublimate was employed instead of the unguent but it proved useless as a preventive of secondary symptoms. In 1904 a young member of the medical profession, Dr. Bonnette, wrote an inaugural thesis on the "Utility of Mercurial Unguents in the Prophylaxis of Syphilis." In the first place, he said, grease reduces friction to a minimum. Secondly, greasy substances act as insulators and are extremely tenacious. A finger and thumb, previously greased, may be pressed together as hard as possible but still a thin greasy coating will remain on the digits, which will present a shiny appearance, leave marks on paper or linen, and resist the lodgment of moisture if they are plunged into water. Thirdly, when mercury is incorporated with an unguent applied to an epithelial surface an antiseptic layer is thereby deposited which will prevent microbian invasion by reason of its viscosity and causticity. Finally, although constitutional contamination may take place rapidly there is always an interval of quiescence; the poison does not penetrate instantaneously. As long as the infecting matter remains localised experience amply shows that cauterisation or excision can safeguard the subject from all bad consequences.

SUPPURATION IN THE ABDOMEN AND HIP-JOINT DUE TO AN ARTERY FORCEPS LEFT IN THE PERITONEAL CAVITY AFTER OVARIOTOMY.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 9th M. Le Gendre and M. Genévrier reported the following remarkable case in which an artery forceps was left in the peritoneal cavity after ovariotomy and caused suppuration which involved the right ilium and hip-joint. The patient was taken to hospital in the autumn of 1905. She had been in bed for three months and treated for phlebitis of the right leg, a diagnosis which was confirmed. There were considerable œdema of the limb and intense pain at its proximal extremity. In the inguinal region was a particularly painful spot and the lymphatic glands were enlarged. In December the hip was the seat of a diffuse swelling. Under the tense skin was a bluish network of a collateral venous circulation. The hip was very tender and gave a sensation of deep resistance. On vaginal examination the right fornix was found to be tender. The right lower limb became adducted and rotated internally and fixed in this position so that the hip-joint did not permit of the slightest movement. Secondary deviations of the pelvis and spine took place. Osteosarcoma of the hip was diagnosed. Spontaneous pain became more and more intense and morphine was given. The cachexia increased and the patient died on Feb. 27th. The necropsy revealed an entirely unexpected condition. Amidst the coils of intestine and covered by adhesions

was a blackened artery forceps. It lay perpendicularly in the right iliac fossa with the handles approaching the umbilical region. The blades lay in a sheath of adhesions which contained a little pus. The tip of the forceps pressed against the ischio-pubic rami below the femoral vessels. At this point the bone was bare and the sheath of adhesions in which the forceps lay was continued under the femoral arch. A probe passed down this canal arrived at the external surface of the ilium, which was also bare. The region of the hip was exposed by a large incision and the joint was found to be destroyed completely. The head of the femur, the acetabulum, and the external surface of the ilium were profoundly necrosed. The surface of the bones was blackish. Sanious and fœtid pus, similar to that which bathed the forceps, flowed out. Evidently a communication with a stercoral abscess existed. Six years before death an operation had been performed in a foreign country. This the necropsy showed was double ovariotomy.

ON Wednesday, April 11th, a discussion will be held at the Hunterian Society, London Institution, Finsbury-circus, London, E.C., at 8.30 P.M., on Syphilis, to be opened by Mr. Jonathan Hutchinson. The disease will be considered in relation to mental disease, the nervous system, and the viscera. All medical men are cordially invited. At the following meeting of the society the discussion will be continued in relation to congenital syphilis, syphilis of the eye and the skin, and general treatment.

MANY of our readers will be glad to hear that the MS. of Dr. John Brown's famous little story, "Rab and His Friends," which was sold by Messrs. Sotheby, Wilkinson, and Hodge last week for £40, was secured by Mr. Quaritch for some Edinburgh medical men who intend to present it either to the library of the Royal College of Physicians of Edinburgh or to that of the University.

A TELEGRAM from the Governor of Hong-Kong received at the Colonial Office on April 2nd states that for the week ending March 31st there were 27 cases of plague and 25 deaths from the disease.

THE forty-sixth annual dinner of King's College (University of London) will be held at the Hotel Cecil on Monday, May 7th. Mr. Justice Grantham will occupy the chair.

King Edward's Hospital Fund has received a cheque for £10,000 for the capital fund through a bank, with instructions that the donor desires to remain anonymous.

BRITISH MEDICAL BENEVOLENT FUND.

AT the monthly meeting of the committee held on March 20th 15 applications were considered and sums amounting to £176 voted in relief. Mr. Parker Young was unanimously re-elected chairman for the ensuing year and the annuity subcommittee was re-appointed for the same period. Appended is a short abstract of the cases.

1. Daughter, aged 56 years, of late M.R.C.S., who practised in Wiltshire. Is given a home by brothers in return for services but receives no salary. Health delicate. Relieved five times, £34. Recommended by Mr. T. H. Cheatle. Voted £12 in 12 instalments.

2. L.S.A., aged 62 years. Used to have an excellent practice in the south-west of London but the neighbourhood degenerated and applicant's difficulties were increased by severe and prolonged illnesses in his family. He is now endeavouring to establish a cash practice and has exhausted the proceeds of the lease of his former house in doing so. Recommended by Dr. J. Mitchell Bruce, vice-president. Voted £18 in 12 instalments.

3. Widow, aged 48 years, of L.R.C.P. Edin., L.R.C.S. Glasg., who practised in Cumberland. Small capital left at husband's death was spent in paying his debts, and applicant's children, although doing all they can to help, are unable to contribute sufficient to support her. Recommended by Dr. G. H. Hume. Voted £10 in two instalments.

4. Widow, aged 63 years, of M.R.C.S., L.S.A., who practised in New South Wales. For 15 years since her husband's death applicant has supported herself as cook in a large lodging house kept by a friend but now has to give up her post as the house no longer pays expenses. Recommended by Dr. W. Travers. Voted £14 in 12 instalments, the first instalment to be £3.

5. Widow, aged 48 years, of L.R.C.P., L.R.C.S. Edin., who practised in London. Quite unprovided for at husband's death; tries to support herself by needlework and proposes to obtain employment which will give her a home. Relieved once, £12. Recommended by Dr. Mitchell Bruce. Voted £5 in one sum with leave to apply again in six months.

6. Widow, aged 61 years, of M.D., C.M. Glasg., who practised in Lancashire. Received £14 a year from a Working Ladies' Guild and a few shillings a week from a son who is a railway signalman. Relieved six times, £72. Recommended by Miss Farquhar. Voted £12 in 12 instalments.

7. Widow, aged 45 years, of M.B., C.M. Edin., who practised in Perthshire. Income £20 a year and supplements this and the slight help given by a relation by taking boarders in the summer. Six children, aged 15 to eight, two being at an institution. Relieved seven times, £78. Recommended by Dr. A. R. Urquhart, honorary local secretary. Voted £12 in 12 instalments.

8. Widow, aged 47 years, of L.R.C.P. Edin., M.R.C.S. Eng., who practised in Herefordshire. Five children, only two of whom are able to contribute to their maintenance. Just manages to make both ends meet by taking several boarders. Husband was totally incapacitated for several years before death and applicant was consequently left unprovided for. Relieved three times, £48. Recommended by Surgeon Lieutenant-Colonel Deeble. Voted £12 in 12 instalments.

9. Widow, aged 55 years, of L.F.P.S. Glasg., who practised in London. Ten children, of whom one is an invalid, two are out of work, and two at school, the rest contributing what they can for themselves and the maintenance of the rest of the family. Relieved seven times, £108. Recommended by Dr. J. O. Adams, vice-president. Voted £12, in 12 instalments.

10. Widow, aged 42 years, of L.R.C.P., L.R.C.S. Edin., who practised in Cardiganshire. Left unprovided for at husband's death and was dependent on her father, now deceased. Two children in the merchant service, one just self-supporting, the other only apprenticed. Relieved once, £12. Voted £3 immediately and case to be further considered at the next meeting.

11. Daughter, aged 58 years, of M.R.C.S., L.S.A., who practised in Lancashire. Was comfortably provided for at father's death, but the capital was misappropriated by the trustee, and applicant now has no means of subsistence. Relieved once, £18. Recommended by Dr. J. E. Nevins, honorary local secretary, and by Dr. J. Cameron. Voted £18 in 12 instalments.

12. Widow, aged 45 years, of L.R.C.S., L.S.A., who practised in Durham. No income; endeavours to support herself by needlework. Indifferent health. Two children; one just self-supporting, the other a school-girl. Relieved four times, £35. Recommended by Mr. Henry Power. Voted £12 in 12 instalments.

13. Widow, aged 62 years, of L.R.C.P., L.R.C.S. Edin., who practised in Glasgow. Only income £10 a year from a charity; endeavours to support herself by taking boarders, but health so bad that at present she can only look after one. Only child, a daughter, has just finished a course of training as a teacher and is waiting for a post. Relieved seven times, £34. Recommended by Dr. Joseph Ball, honorary local secretary, and by Sir Patrick Heron Watson. Voted £12 in 12 instalments.

14. Widow, aged 44 years, of M.R.C.S., L.S.A., who practised in Sussex. No income; receives a home and small salary for services as working housekeeper, but applicant's health is so indifferent that she often has to pay for a substitute. Children unable to help. Relieved seven times, £88. Recommended by Dr. R. Shingleton Smith. Voted £12 in 12 instalments.

15. Daughter, aged 50 years, of M.R.C.S., L.S.A., who practised in London. No income; allowed £18 a year by a sister. Health too precarious for continued exertion. Relieved eight times, £89. Recommended by Mr. W. Bramley Taylor and Mr. Frank Hewkley. Voted £12 in 12 instalments.

MEDICINE AND THE LAW.

Changes in the Law regulating Inquests.

A PRIVATE Bill which has been introduced in the House of Commons and has been mentioned as being one which may be pressed forward has for its object the relief of coroner's juries from the obligation to view the dead bodies forming the subject of their inquiries. The matter has often been discussed and it is not likely that anyone would seriously oppose such a measure, but the system has been in existence from time immemorial and its alteration cannot be said to be of urgent importance. On the other hand, amendments of the law of a trifling character made from time to time complica e it needlessly and may have the effect of postponing more important changes by removing minor grievances and by inducing a feeling that no further improvement of the existing state of affairs is needed. The medical profession, particularly those members of it who practise in the division in which Mr. Troutbeck presides as coroner, are awaiting with interest the next stage in the proceedings relating to the payment of fees to Dr. Freyberger. The question at issue as to this seems to depend largely upon how far any discretion which the coroner may possess under the common law with regard to the summoning of medical witnesses is

permitted to override the apparent meaning of the Coroner's Act, 1887. The doubt as to this, and the whole unfortunate dispute between the coroner in an important London district and the medical men practising therein, point to an insufficiency and want of clearness in the statute mentioned, and it may be suggested that whichever side may eventually be held to have been in the right those who are unsuccessful will more or less urgently demand some legislative change. The subject matter which gives rise to the inquest, the suspicion that a person has died a violent or an unnatural death, or a sudden death whereof the cause is unknown, is not stated in the most lucid possible manner for the guidance of the coroner, nor do all the circumstances in which an inquest might well be held appear to be included. The information required by a coroner in order that he may decide whether there shall be an inquest or not should be obtained from a medical man but no power to pay for such information is given. As to this a letter from "Country Doctor" at p. 1014 suggests the proper course to be adopted. The denial of fees to medical officers of lunatic asylums and hospitals summoned as witnesses may be cited as another point of interest to the medical profession as well as the disagreeable discussions which take place when a coroner believes that a medical man has given or has withheld a death certificate wrongly. Other matters besides differences of opinion of this kind show that not only the Coroners Act, 1887, should be reconsidered but that the law relating to the registration of deaths should be brought into harmonious combination with the provisions of any new one. The Act of 1887 continues the old qualification for the office of coroner that the candidate "shall be a fit person having land in fee sufficient in the same county whereof he may answer to all manner of people," and although this may be disregarded in practice it would presumably be deliberately omitted from a new measure with the substitution of some conditions as to the fitness by training and experience of the person appointed for his office. The necessity for medical qualifications for all coroners would naturally be urged by the medical profession when this point came to be dealt with. The coroners of to-day include many men whose knowledge and experience would entitle them to be heard upon questions affecting their office and fresh evidence from these would be available to supplement opinions already at the command of the legislature. A Bill dealing with any one of the points enumerated singly, or such a one as would merely relieve a jury of the "unpleasant" formality of "viewing" a dead body, would tend to delay rather than to expedite general and effective reform. The British Medical Association is known to favour legislative reform.

A Child "en Ventre sa Mere."

In THE LANCET of June 10th, 1905, p. 1603, was recorded a decision of Mr. Justice Swinfen-Eady in the divisional court that in a certain technical case a child born three weeks after the decease of the testator was excluded from certain provisions of a will as not being "born in the life-time" of the author of the will. This decision caused surprise at the time and was regarded as creating an exception to the general rule enunciated in Bacon's Abridgment: "It is now clearly settled that a child *en ventre sa mère* is a life in being to all intents—except in the case of a descent at common law." An appeal was instituted and allowed on March 8th by the Master of the Rolls and Lords Justices Romer and Cozens-Hardy. They said that the principle to be deduced from a long series of decisions was that *primâ facie*, in the absence of a sufficiently weighty consideration to the contrary, for the purposes of devolution of property in connexion with intestacies or wills, no distinction ought to be drawn between a child born at a particular time and a child at that time *in utero* and subsequently born alive—and in particular in the case of wills no such distinction ought to be made unless the context required it.

ASYLUM REPORTS.

Hants County Asylum (Report for the Year 1904).—The average number resident at this asylum was 1094, the sexes being nearly equally divided. Whilst showing considerable fluctuations the number resident has, with one exception, been above 1000 since 1893, and is now 78 above the figure in that year. The admissions numbered 197, or 22 less than in the previous year; the admissions have not been so few since 1889 and have decreased steadily for the past three years. As regards causation, hereditary influence, direct and collateral, was ascertained in less than 20 per cent. of the admissions. This is a very low proportion and it may be doubted whether this figure accurately represents the incidence of the hereditary factor. The other causes given are not noteworthy. The percentage of recoveries on admissions was 37·6, the mean annual figure for the period during which the asylum has existed being 32·8. The percentage of deaths on the average number resident was not more than 8, which is lower than it has been for nine years. Tuberculosis accounted for about 28 per cent. of the deaths, a high proportion. Amongst other causes we notice peritonitis due to fæcal obstruction as responsible for one death. This is a very unusual cause and requires, we think, elucidation. Necropsies were performed in 76 per cent. of the deaths. The medical superintendent, Dr. T. B. Worthington, from whose report the above extracts are made, remarks that the number of melancholic and actively suicidal cases brought for treatment is much larger than that of the maniacal and seems to increase yearly. The health of the asylum was good; colitis occurred in only four cases and enteric fever in one. The annual report of the Commissioners in Lunacy speaks favourably of the state of the institution.

Nottingham City Asylum (Report for the Year 1904).—The average number resident in this asylum during 1904 was 759. The admissions numbered 166, the discharges 65, and the deaths 81. The percentage of recoveries on admissions was 36·94, the average for the past 25 years being 39·4. The percentage of deaths on the average number resident was 10·67, the average for the period mentioned being 10·36. During the past 20 years the numbers resident have increased from 350 to 750. The female division is overcrowded and the provision of further accommodation is under consideration. The character of the admissions was very unfavourable, fully 45 per cent. presenting little or no prospect of recovery. According to Table X., which deals with the causes of insanity in the admissions, 193 cases were admitted, whereas the report gives the figure as 166. In 31 cases the cause appears under the heading "other bodily diseases and disorders." This is a rather large proportion, and it would be conducive to more accurate knowledge were these conditions referred to more fully in this and other asylum reports. Hereditary predisposition was found in the low proportion of 21 per cent. of the cases, and alcoholic excess in 12 per cent. according to the report, but the percentage occurrence, based upon 166 admissions, would give 11·4 per cent. Mr. Evan Powell, the medical superintendent, reports that the general health has been good; no infectious disease occurred and no death took place as a result of insanitary conditions in the building. The death-rate from pulmonary tuberculosis has, however, risen from 7·8 per cent. of all deaths last year to 14·8 per cent. this year, though it is still below the average for asylums of similar size. The committee states that it feels it a duty to consider the desirability of providing separate accommodation for private patients of the middle class. This view is gradually being adopted by the managing bodies of county asylums. This asylum is economically managed, the weekly charge being the low one, for city and borough asylums, of 10*s*. The Commissioners in Lunacy report favourably of the condition of the institution.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8933 births and 5150 deaths were registered during the week ending March 31st. The annual rate of mortality in these towns, which had steadily declined in the four preceding weeks from 17·4 to 15·8 per 1000, rose again last week to 17·0. In London the rate was 18·5, while the average rate in the 75 other large towns did not exceed 16·3. The lowest death-rates in these towns during the week were 8·3 in Grimsby, 9·0 in Hornsey, 9·4 in Willesden, and 9·7 in Leyton; the highest rates were 21·3 in Birmingham, Bootle, and Bury, 21·4 in Huddersfield, 22·1 in Liverpool, 22·2 in Blackburn, 22·8 in Hanley, 23·3 in Warrington, and 24·5 in Middlesbrough. The 5150 deaths in these towns included 492 which were referred to the principal infectious diseases, against 469, 435, and 414 in the three preceding weeks; of these 197 resulted from measles, 158

from whooping-cough, 46 from diphtheria, 39 from diarrhœa, 32 from scarlet fever, and 20 from "fever" (principally enteric), but not one from small-pox. No death from any of these infectious diseases was registered last week in Bournemouth, Reading, Ipswich, Norwich, Plymouth, Stockport, Wigan, Rochdale, or in seven other towns, while they caused the highest death-rates in Liverpool, Preston, Handsworth, Wolverhampton, Blackburn, Smethwick, and Bury. The highest rates of mortality from measles occurred in Bristol, Newcastle-upon-Tyne, Yarmouth, Tottenham, Blackburn, Preston, and Bury; from whooping-cough in Warrington, Aston Manor, West Bromwich, Handsworth, and Smethwick; from diphtheria in St. Helens and Leicester; and from diarrhœa in Oldham. The mortality from scarlet fever and from enteric fever showed no marked excess in any of the large towns. No death from small-pox was registered during the week either in London or in any of the large provincial towns. The number of small-pox cases remaining under treatment in the Metropolitan Asylums Hospitals, which had been six, seven, and ten at the end of the three preceding weeks, declined again to eight at the end of last week, no new case having been admitted during the week, against five in the previous week. The number of scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday last, March 31st, was 2386, against numbers declining from 2628 to 2434, on the four preceding Saturdays; 223 new cases were admitted during the week, against numbers declining from 273 to 234 in the four preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory organs, which had been 334 and 320 in the two previous weeks, rose again to 337 last week, and exceeded the corrected average for the corresponding week in the four preceding years by 20. The causes of 57, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, Hull, Newcastle-on-Tyne, West Ham, and in 48 other smaller towns; while the highest proportions of uncertified deaths were registered in Liverpool, Birmingham, Manchester, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·3, and 18·0 per 1000 in the two preceding weeks, rose again to 18·9 during the week ending March 31st, and exceeded by 1·9 the mean rate during the same week in the 76 large English towns. The rates in the eight Scotch towns ranged from 15·8 and 16·5 in Leith and Edinburgh to 21·4 and 21·8 respectively in Greenock and Dundee. The 647 deaths in these eight towns included 27 which were referred to measles, 11 to whooping-cough, 12 to diarrhœa, six to scarlet fever, four to diphtheria, two to "fever," but not one to small-pox. In all, 62 deaths resulted from these principal infectious diseases last week, against 81 and 57 in the two preceding weeks. These 62 deaths were equal to an annual rate of 1·8 per 1000, which exceeded by 0·2 the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 37 and 20 in the two preceding weeks rose again to 27 last week, of which 14 occurred in Glasgow, seven in Edinburgh, and two both in Dundee and Paisley. The fatal cases of whooping-cough declined again last week to 11, from six and 16 in the two previous weeks, and included seven in Glasgow and two in Dundee. Three of the four fatal cases of diphtheria were registered in Glasgow and of the 12 deaths referred to diarrhœa five were returned in Glasgow and two both in Edinburgh and Dundee. The deaths referred in the eight towns to diseases of the respiratory organs, which had been 125 and 128 in the two preceding weeks, declined last week to 103, and were within one of the number returned from the same diseases in the corresponding week of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·1 and 25·6 per 1000 in the two preceding weeks, further rose to 26·1 during the week ending March 31st. During the 13 weeks of last quarter the death-rate averaged 22·9 per 1000; during the same period the mean death-rate did not exceed 16·6 in London and 17·4 in Edinburgh. The 190 deaths of persons belonging to Dublin registered during the week under notice showed an increase of four upon the number in the previous week and included ten which were referred to the principal infectious diseases, against ten and four in the two preceding weeks; of these, three resulted from diphtheria, three from "fever," two from whooping-cough, two from diarrhœa, but not one from small-pox, measles, or scarlet fever. The ten deaths from these infectious diseases were equal to an annual rate of 1·4 per 1000, the death-rates last week from these diseases being 1·8 in London and 2·0 in Edinburgh. The three fatal cases of diphtheria in Dublin exceeded the number in any previous week of last quarter; and it is noteworthy that seven deaths from "fever," probably enteric, were registered during the last three weeks of the quarter. The 190 deaths in Dublin last week included 40 of infants under one year of age and 54 of persons aged upwards of 60 years; the deaths of infants showed an increase, and those of elderly persons a decline, compared with the numbers in the previous week. Four inquest cases and three deaths from violence were registered; and 87, or no less than 46 per cent. of the 190 deaths, were recorded in public institutions. The causes of 12, or 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified:—Fleet Surgeon G. A. S. Bell to the *President*, for hospital course. Staff-Surgeons: F. Fedarb and E. G. E. O'Leary to the *President*, for hospital course; R. W. Stanistreet to the *Doris*; and H. E. Fryer to the *Tyne*. Surgeons: P. W. MacVean to the *Sapphire II.* and A. T. Gailleton to the *President*, for hospital course.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Edward Wentworth Luther has been placed on the Retired List at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated April 1st, 1906).

ROYAL ARMY MEDICAL CORPS.

Colonel Montgomerie Blennerhassett, C.M.G., retires on retired pay (dated April 4th, 1906).

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the undermentioned officers:—Lieutenant-Colonel Frederick William Wright, D.S.O. (dated Dec. 7th, 1905); Lieutenant-Colonel Eugene Cretin (dated Dec. 31st, 1905); Lieutenant-Colonel Gerard Macklin Eccles McKee (dated March 14th, 1906).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Robert T. C. Robertson, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers (dated April 4th, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Edinburgh (City): James Hunter Harvey Pirie (formerly Second Lieutenant, Royal Field Artillery), to be Surgeon-Lieutenant (dated March 31st, 1906).

Royal Engineers (Volunteers): 1st Sussex: Surgeon-Captain A. H. Croucher resigns his commission (dated March 31st, 1906).

Rifle: The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): Surgeon-Captain J. A. Clark to be Surgeon-Major (dated March 31st, 1906). 2nd Volunteer Battalion the Northumberland Fusiliers: Supernumerary Surgeon-Lieutenant F. N. Grinling (Commanding Tyne Volunteer Infantry Brigade Bearer Company) to be Surgeon-Captain, remaining supernumerary (dated March 31st, 1906). 20th Middlesex (Artists') Volunteer Rifle Corps: Surgeon-Captain C. S. de Segundo is granted the honorary rank of Surgeon-Major (dated March 12th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Seaforth and Cameron Bearer Company: Captain J. Macdonald to be Major (dated March 31st, 1906).

THE ORDER OF THE OSMANIEH.

The King has given to the undermentioned officers permission to accept and wear the Imperial Ottoman Order of the Osmanieh, Fourth Class, which has been conferred upon them by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of valuable services rendered to His Highness: Major John Herbert Rivers, R.A.M.C., and Captain Hamilton George Frampton Stallard, R.A.M.C.

THE APPOINTMENT OF SURGEON-GENERAL IN INDIA.

The *Army and Navy Gazette* of March 31st says: "The officers of the Royal Army Medical Corps have gained the day in the matter of the surgeon-general's appointment in India, over which, as we have already stated, the War and India Offices have been fighting for nearly a year. This decision will take Surgeon-General Slaughter to Bombay, vice Gubbins, for the former officer, pending this decision, has remained on at Colchester (a colonel's appointment). Arrangements can thus now be made for the appointment of a successor to Surgeon-General W. H. Macnamara at Aldershot whose retirement by age falls due in June."

APPOINTMENT OF DENTAL SURGEONS.

Mr. W. J. F. Middlemiss, L.D.S. Edin., has been appointed a dental surgeon to the troops in Ireland and Mr. E. H. Wyand, L.D.S. Eng., to the troops at Aldershot.

Correspondence.

"Audi alteram partem."

THE ETHICS OF THE MEDICAL PROFESSION IN RELATION TO SYPHILIS AND GONORRHŒA.

To the Editors of THE LANCET.

SIRS,—I hope that Mr. Campbell Williams's able address, the correspondence between him and Mr. Dudley Burney, and your annotation, "The Prevention and Early Treatment of Syphilis," will lead to something practical being done. In the *brochure* to which you kindly referred I showed seven years ago that special hospitals and special wards in general hospitals for these diseases were becoming a vanishing quantity, and as regards wards in general hospitals this has been accentuated, ward after ward in the London hospitals having been closed against the patients formerly received and devoted to medical and surgical cases. The general public has never shown much sympathy for such hospitals. Whether this be due to the odium attaching to the word "lock" or to any other cause I do not know. As regards lock wards in general hospitals I would ask with all respect whether the medical and surgical staff of each hospital is free from blame. Patients with those diseases are seen as out-patients in every general hospital. No one will dispute the importance of all students being taught how to diagnose promptly and to treat these diseases. Is this done? Among the out-patients are many cases of syphilis and gonorrhœa. Are they seen by the assistant surgeon who has had the greatest experience of them and who is most competent to teach the students? Is there a special day for seeing these cases? Cannot the governing body of each hospital be induced by the medical staff to set apart at least a few beds for cases that cannot be efficiently treated as out-patients? Surely there is something very inconsistent in refusing to admit a patient, male or female, suffering from primary syphilis in a very aggravated form and having in the medical wards patients suffering from syphilitic diseases of the brain, the lungs, the heart, &c., and in the surgical wards men suffering from the results of repeated attacks of gonorrhœa.

In Liverpool the only wards for the reception of patients suffering from these diseases are those of the local workhouses, Liverpool, West Derby, and Toxteth. The same must be true of many another large town and city in England. These facts, which are indisputable, strongly emphasise the recommendation of the committee on the deterioration of health that a Government inquiry should be held as to the present provision for the treatment of pox. It concerns all members of the profession. Obstetricians and gynæcologists see the effects of syphilis in innocent sufferers, married women and children. Physicians, surgeons, and specialists of all kinds could give valuable evidence of the far-reaching nature of syphilis and of gonorrhœa. The baneful effect of these two poisons—the syphilitic and gonorrhœic toxins—are almost unlimited.

I am most anxious that this letter should be read, should you be kind enough to afford me the space. Hence, I do not wish to make it long and have omitted all reference to the moral and social points. I hope that some medical or lay member of the House of Commons may be induced to put a question to the President of the Local Government Board asking him if he will grant the inquiry asked for.

I am, Sirs, yours faithfully,

Liverpool, March 31st, 1906. F. W. LOWNDES.

To the Editors of THE LANCET.

SIRS,—Whether statistics are like algebraical formulæ or whether it is possible to get trustworthy statistics showing that the percentage incidence of venereal disease is really alarming will never alter the fact that syphilis is the canker-worm of a large majority; that the tissues built up in mature and embryonic life, in contact with the spirochæta, are so spoilt and "jerry-built" as to be a ready prey to stress and to alcohol, nay, almost any known malady that comes under the nomenclature of disease. Then, logically speaking, with common-sense principles of the present day, is not preventive medicine the proper course of treatment? But, I ask, how can the practice be governed, even if legislation were brought into fashion under a system of notification? Supposing every man and woman so notified were kept under surveillance would it not end as a mare's nest, gratifying, no doubt for the time being, a few of us?

No, Sirs, society will never tolerate a universal Contagious Diseases Act, however desirable or consistent it may be thought fit to place such military stations as Aldershot, Woolwich, &c., under sexual supervision. Filthy in mind and body as some prostitutes appear, still the class of men whom they appeal to are, in many instances, as equally depraved. Beastliness is not the word. And I maintain that a woman's privacy should not be unprotected more than that of a man's in any class of society to which the word prostitution, relatively speaking, is applicable. Just imagine for a moment what a state of chaotic uproar it would lead to should general notification of syphilis become law. Thus my argument is to leave things as they are in hopes that the swing of the pendulum will affect even sexual matters.

It would indeed be satisfactory to know who is the greater sinner in sexual matters, the man or the woman; whether a large amount of prostitution is not the outcome of man's infidelity; and whether, instead of labeling the woman, it should not be the other way about. These are my views on the subject and which I consider dishonourable men might take to heart; and if they cannot or do not wish to comply with the decent laws of sexual congress let them pay the penalty and the weight of this ethical question in civilised Great Britain. Indirectly, I think, the danger zone is man himself, when we regard the spread of syphilis, especially in my mind the worse type—viz., congenital. If a man sows wild oats and he comes to grief, why should human breeding suffer? This is the crux of the whole matter so far as the deadly effects of syphilis are concerned.

Those who are of the insane stock and who do not breed do no one any harm; so it is with those who have contracted syphilis. Thus I shall always condemn marriage at the altar by a man who has acquired this disease. And I would support any Bill that the parliament of the profession might bring forward as a preventive step for decreasing the degenerate class, believing that congenital syphilis is the spoiling agent in many cases.

In conclusion, although syphilis may be contracted accidentally, still there is a potent disease which, considering all circumstances, is a death-blow to healthy breeding. Among men of a high ethical standard marriage at the altar, considering these circumstances, would be out of the question. But such recommendation of healthy breeding would not appeal to another class whose ethical standard is low. Therefore men who have had frequent intercourse with a variety of women and who have acquired syphilis should not be representative human breeders. On the contrary, they had better remain as bachelors and live with the class of women whose society they have so long encouraged instead of ravaging the genealogical tables of healthy women.

This, then, appears to me to be the ethics of the medical profession in relation to syphilis.

I am, Sirs, yours faithfully,

Alton, Hants, March 23rd, 1906. J. F. BRISCOE.

PERFORATED DUODENAL ULCER.

To the Editors of THE LANCET.

SIRS,—There are several points in the interesting communication on duodenal ulcer by Mr. S. Maynard Smith which appear to deserve remark.

In the first place perforated duodenal ulcers are by Mr. Smith divided into three classes, which may be briefly summarised thus: (1) acute perforation into the peritoneum with flooding of the whole sac; (2) acute perforation with flooding of part only of the sac; and (3) chronic perforation, which is either retroperitoneal or takes place into limiting adhesions. Although this method of classification is excellent from a clinical point of view, yet the use of the terms "acute" and "chronic" and also of the term "perforation" is open to criticism. There are two modes in which the "perforation" of a duodenal (or gastric) ulcer may occur: *rupture* by disturbance of adhesions, which is the rule; and *perforation* by extension of active ulceration, which is the exception. So called "acute perforation," whether it results in complete flooding of the peritoneal cavity, as in Class 1, or in a more limited intraperitoneal effusion, as in Class 2, in all the cases I have had the opportunity of critically examining has been due to tearing out of the floor of an ulcer by traction exerted on its adhesions. I think this accident is best expressed by the term "rupture." The mishap may be the result of muscular effort or of blows or be due to the traction exerted by a loaded or forcibly contracting stomach.

In the second place, there is a fact connected with these ulcers which is not sufficiently emphasised and which has some bearing on the feasibility of complete and satisfactory excision. In many instances the ulcers are not solitary and they are often placed one on the anterior and one on the posterior duodenal wall. Complete excision in such cases necessitates the removal of a complete segment of the bowel and if practised at the time of operation for perforation adds considerably to the gravity of a case already sufficiently serious.

Lastly, I should like to draw attention to the accuracy and great practical importance of the account given by Mr. Smith of the track followed by intraperitoneal suppuration due to rupture of a duodenal ulcer. We owe the description of the right kidney pouch to Mr. Rutherford Morison[1] who rightly recognised its importance. The influence attributed to the colon and to the configuration of the posterior abdominal wall in determining the track of intraperitoneal suppuration is in complete accord with the observations of Dr. A. E. Russell, Mr. Cuthbert S. Wallace, and myself, which are embodied in papers in the St. Thomas's Hospital Reports for 1897, the *British Medical Journal* of Feb. 8th, 1902, and more recently in the Transactions of the Medical Society of London, vol. xxviii. To Mr. Wallace is due, I believe, the credit for the term "peritoneal watersheds," which so admirably summarises the influence of the projection of the bodies of the vertebræ and of the iliac crests in determining the course of fluid collections in the peritoneal cavity of a patient lying in the supine position.

I am, Sirs, yours faithfully,

Devonshire-place, W., March 30th, 1906. CHARLES R. BOX.

ETHYL CHLORIDE AS A GENERAL ANÆSTHETIC.

To the Editors of THE LANCET.

SIRS,—The interesting letters that you have published upon the subject of ethyl chloride indicate an unusually marked divergence of opinion. Some practitioners, in fact, at the present time appear to think that this anæsthetic should never be used, whilst others maintain that it is best in almost every case of short operation. Some freely argue that ethyl chloride is a perfectly safe drug and others see in it a source of ready danger. Now, Sirs, it seems to me undeniable that, on the one hand, there is no comparison between the relative safety of nitrous oxide and ethyl chloride and, on the other hand, there is equally no question that there are many cases where ethyl chloride is the most desirable anæsthetic to employ. So far as the question of safety goes, the matter is scarcely one of opinion. When the number of recorded fatalities that have been collected from the thousands, almost the millions, of cases of nitrous-oxide anæsthesia is balanced against the recorded fatalities due to ethyl chloride within the space of three years it is barely rational to maintain that the latter is on the same plane with the former so far as the question of safety is concerned. Moreover, it requires very small experience of anæsthetics to realise from clinical phenomena the totally different degree of potency of the two agents. The same may be said as regards the frequency of after-effects. Nevertheless, I agree entirely with those of your correspondents who uphold the value of ethyl chloride, if only they will admit that it is never to be used when nitrous oxide is available and is suited to the case. There is a special field, I believe, for ethyl chloride in cases of short operations upon persons who are not good subjects for nitrous oxide and also as a preliminary to ether in the case of these subjects when they are to undergo longer operations. As far as my own experience goes, it is in the cases of the alcoholics and of the muscular, high-coloured, thick-necked men—soldiers, athletes, carmen, &c.—that ethyl chloride is particularly valuable. Nitrous oxide, as is well known, does not give its best results with this type of individual, whether used alone or with air or with oxygen. With ethyl chloride, on the contrary, the requisite length and quiet of anæsthesia are easily obtained in such cases, and when the drug is used to precede ether from a Clover's inhaler it is equally satisfactory. In the case of the individuals to whom I am referring I believe ethyl chloride, if the dose is properly regulated, can be perfectly safely given in the sitting position; they are, of course, persons with powerfully acting hearts. In the case of small children, for whom ethyl chloride is now so often used for "tonsil and adenoid" operations, it is, as far as I have observed, very easy to get into danger with this anæsthetic.

I am, Sirs, yours faithfully,

J. BLUMFELD,
Senior Anæsthetist, St. George's Hospital, &c.

Cavendish-place, W., April 3rd, 1906.

To the Editors of THE LANCET.

SIRS,—In reference to the above but more particularly to Dr. R. A. Lankester's remark that "where it is necessary that above half-a-dozen teeth and stumps should be removed the only other alternative, practically speaking, is ether," I may remark that on three occasions recently I have asked the dentist to come to the patient's house and the patient being in bed I have given chloroform in the usual way. No great difficulty has in any of my cases been noticed and ample time—a very important matter—has thus been given to the operator. I am, Sirs, yours faithfully,

Streatham, S.W., March 30th, 1906. E. H. WORTH.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY?

To the Editors of THE LANCET.

SIRS,—Will you allow me to reply to some of Mr. B. G. A. Moynihan's kindly criticisms of my recent Hunterian lectures? I welcome such criticism, as it cannot but further our knowledge and aid in distinguishing between the wheat and the chaff of the various surgical procedures adopted at the present time. As I anticipated would be the case, Mr. Moynihan takes exception to the opinion expressed in favour of the anterior operation and he maintains that "every argument and all experience show that the posterior operation *as now performed* (the italics are mine) is the better operation." Mr. Moynihan, I take it, here refers to the "no-loop" method. Now, I would point out that in my lectures I expressly stated that my arguments referred to the posterior operation *as usually performed*, and, in London at any rate, the no-loop method is not yet that most commonly adopted. While pointing out that the no-loop method involves more manipulation and that should any fault develop at the site of the anastomosis it would be very difficult to remedy it, I avoided any dogmatic statement as to the merits of this operation on the ground that we have not yet sufficient evidence on which to

[1] Brit. Med. Jour., Nov. 3rd, 1894, p. 968.

base conclusions. Mr. Moynihan himself has, I believe, adopted the no-loop method only within the last two years, too short a period in which to judge of the after results. My contention is that at the present time we are not entitled to maintain that experience is conclusive as to the status of the no-loop method, nor can I admit that "every argument" is in favour of it. The no-loop method is, at least so it seems to me, wrong in principle, as it must be mechanically incorrect to unite a portion of the jejunum close to its origin to a moveable organ like the stomach. That this is not a hypothetical objection is proved by a case recently recorded by Munford[1] in which death ensued owing to the anastomosis being torn apart by the contraction of the stomach. Such an accident can hardly occur if a loop be left between the origin of the jejunum and the site of the anastomosis.

With regard to the occurrence of internal hernia, Mr. Moynihan asserts that such an occurrence is impossible if the edges of the mesocolon are stitched to the jejunum. Impossible is a strong word to use in connexion with the abdominal cavity, a region about which prophecy is extremely hazardous. Mr. Moynihan himself has, so I am informed, adopted this plan for less than two years and since in some of the recorded cases of gastro-jejunostomy (including one of Mr. Moynihan's own) internal hernia has not occurred until *after an interval of two years*, surely it is too early to speak positively as to the impossibility of internal hernia when the mesocolon is stitched to the jejunum. In the absence of any direct evidence on the point I think we may be sceptical as to whether the insertion of three stitches will invariably secure permanent and efficient closure of the opening into the lesser sac.

Mr. Moynihan next deals with the subject of regurgitant vomiting. He admits that the obstruction is at the anastomotic opening and then concludes: "The cause of this obstruction I submit, therefore, is to be found in the loop." I confess I do not follow this reasoning. Why if the obstruction be at the anastomotic opening should the loop play any part in its production, unless, indeed, Mr. Moynihan maintains that the obstruction is secondary to "water-logging"? Be this as it may, my contention is that regurgitant vomiting is a preventable complication, and there is no evidence that it is more common after anterior than after posterior gastro-jejunostomy.

Next as to peptic jejunal ulcer. Mr. Moynihan takes exception to my explanation of the fact that more instances of peptic jejunal ulcer have followed the anterior than the posterior operation—namely, that the anterior operation has been more frequently performed. He says, "it is almost certain that the posterior operation has been performed far more frequently." My answer is that a search through the records of the period 1881 to 1904 indicates that the anterior operation had been performed more frequently than the posterior, and the difference is probably sufficient to account for the larger number of jejunal ulcers which have followed the anterior operation. The important point, however, to which Mr. Moynihan does not allude is that peptic jejunal ulcer following the posterior is apparently a more serious complication than after the anterior operation.

Lastly, Mr. Moynihan states that "the choice of the posterior operation is the result of a considered and well-reasoned opinion that it is a safer, and so far as the after-results are concerned a more successful, operation than the anterior, and established by long experience." Does Mr. Moynihan refer to the posterior operation with or without a loop? If he refers to the "no loop" method, advocated by Czerny and Petersen in 1901, he can scarcely maintain that it is an operation established by long experience. If, on the other hand, he refers to the posterior operation with a loop, I submit that the series of cases brought forward in my lectures shows that there is no evidence that the posterior operation is either safer, or more satisfactory as to the after-results than the anterior. I adduced records of patients who have lived in perfect health for 10, 12, 14, 18, and 19 years after anterior gastro-jejunostomy, some of whom have regained and maintained their normal weight. Can the advocates of posterior gastro-jejunostomy wish for better results than these?

Probably the last word has yet to be said as to the best method of performing gastro-jejunostomy, so that opinions, however considered and well-reasoned, must be accepted with caution and not accepted as final until they are supported by a long series of observed facts. For the present I submit that, whatever may be the case later, there is no conclusive evidence to show that the results, either immediate or remote, are better after the posterior than after the anterior operation. Until such evidence is forthcoming I shall continue to employ the simpler and, in my own experience, perfectly satisfactory anterior operation.

I am, Sirs, yours faithfully,

HERBERT J PATERSON.

Upper Wimpole-street, W., March 30th, 1906.

[1] Munford: Annals of Surgery, January, 1906, p. 88.

THE QUESTION OF PAY HOSPITALS.

To the Editors of THE LANCET.

SIRS,—The general attention which is at the moment directed to schemes for providing public institutions for patients able to pay for their support has brought to light a good deal of evidence of the efforts made to deal with this subject—as long ago as 1881 in the case of St. Thomas's Hospital and 1884 in the case of Guy's Hospital. Smaller institutions may also claim to have to a great extent solved the problem and of these the Hampstead General Hospital was undoubtedly one of the first. Started as a home hospital in 1882 its special feature was that all patients were expected to contribute towards their support. It was found necessary later to provide free beds, the number of which has been increased now that the hospital has removed to the new building at Haverstock Hill. The experience of this institution goes to show that there is real need for beds for paying patients and when in the near future the hospital is enlarged to 115 beds it is intended to provide a special block with 20 beds for patients of this class, entirely separated from the free wards.

The problem is made more difficult by the want of uniformity in hospital methods. Applications for admission here both to beds at the contributing rate of 12*s.* per week and the private rooms at the rate of £3 3*s.* per week have come from all parts of London. The former have necessarily been restricted to patients from the districts naturally served by the hospital and as regards the latter applications from the neighbourhood receive preference. These charges serve as a working basis, variations being, of course, made in special circumstances, and the provision of the beds at the higher rate being made for the benefit of those only who cannot properly afford the charges in an ordinary nursing home.

I am given to understand that at least one of the London hospitals which have accommodation of this kind restricts the practice to consultants but the course adopted in the Hampstead General Hospital, and which appears to be growing in favour, is that the patients shall be attended by their ordinary medical attendants, and that the necessary arrangements for the attendance of consulting physicians or surgeons shall be left in their hands.

I am, Sirs, yours faithfully,

ERNEST COLLINS,
Chairman of the Council.

Hampstead General Hospital, Haverstock Hill, N.W., March 28th, 1906.

ROYAL ARMY MEDICAL CORPS VOLUNTEERS (LONDON COMPANIES).—On March 31st a smoking concert was held by the London Companies of the R.A.M.C. Volunteers at their headquarters, 51, Calthorpe-street, Gray's Inn-road, to bid farewell to Mr. G. Small, late sergeant-major and senior instructor to the corps. During an interval in the proceedings a framed address and purse of money, subscribed by members of the corps past and present, were presented by the commanding officer, Colonel V. Matthews, who spoke warmly of Mr. Small's good influence on the corps during his connexion with it, which extended, off and on, over a period of nearly 22 years, ever since its first inception, and paid at the same time a graceful tribute to Mr. Small's high personal character. In thanking the donors, Mr. Small expressed the great pleasure that he experienced in accepting the gift and recalled many interesting incidents which occurred during his period of office. That there was much musical talent in the corps was evidenced by the lengthy nature of the programme provided, Colonel Matthews and most of the other officers taking an active part in the proceedings.

TEMPERANCE LEGISLATION IN FRANCE.

CAN ENGLAND PROFIT BY THE FRENCH EXAMPLE?—THE DIFFICULTY OF OBTAINING "HYGIENIC DRINKS."—PURE WINE AT FIVE FARTHINGS THE PINT IN FRANCE AND FIVEPENCE IN ENGLAND.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

PART III.[1]

IT has been necessary to insist at length on what has occurred in Paris, because in no other part of the country has the abolition of *octroi* dues on "hygienic drinks" involved anything like so great a sacrifice. The *Bulletin de Statistique*, published in May, 1900, by the Minister of Finance, estimates the gross receipts of all the *octrois* in France at £13,327,700, from which are deducted £1,200,000 as cost of collection. Out of this the *octroi* of Paris takes about half—namely, £6,256,420. The *octroi* duties on wines, beer, and cider throughout France amounted to £3,466,440 and of this amount two-thirds were paid at the Paris *octrois*, where the duty on "hygienic drinks" used to be so much higher than in any other part of the country. Apart, however, from the action of the municipalities it is necessary to take into consideration the sacrifices made by the State in the cause of temperance. From the fiscal point of view there were three categories: first, wine, cider, perry, and mead; secondly, spirits, brandies, liqueurs, absinthes, and other alcoholic liquids; and thirdly, beer. The first category had to pay a tax for "the right of circulation" from one to two francs the hectolitre of wine according to the department from which the wine came and the place to which it was to be sent. For cider, perry, and mead this tax was uniformly 80 centimes. Then the right to sell retail was taxed by the State *ad valorem* 12½ per cent. of the sale price. Spirits paid a general tax of 156 francs 25 centimes per hectolitre of pure alcohol. On beer a brewing tax was imposed of 3 francs 75 centimes per hectolitre of strong beer and 1 franc 25 centimes per hectolitre of thin beer. Under the new *régime* the State, as well as the municipality, sacrifices all taxation on "hygienic drinks" except the very trivial charge made for the "right to circulate." That is to say, that on wine not drunk where it is made must be paid 1 franc 50 centimes (or 1*s*. 3*d*.) per hectolitre (or 22 gallons) for permission to send it to other parts of the country. For cider, perry, and mead this tax is only 8*d*. for 22 gallons. For brewing the tax has been reduced to 25 centimes per degree of alcohol per hectolitre, which in practice amounts to a tax of about 1*s*. for every 22 gallons. On the other hand, the State increased the general tax on spirits from 156 francs 25 centimes to 222 francs the hectolitre. In rural and all other districts this tax on spirits must be paid to the State and if spirits are sent to towns the tax is increased from 7 francs 50 centimes to 30 francs the hectolitre. In Paris, where over and above these State charges the *octroi* dues have been doubled, the total of the State and local taxes on spirits amounts to no less than 415 francs or £16 12*s*. the hectolitre or 22 gallons. In England the tax on spirits is £13 and in Russia £20 the hectolitre. By increasing the tax on spirits the annual revenues of the State have been augmented to the extent of about £400,000 and those of the city of Paris, though increased, were, as already related, £280,000 less than they would have been had the inhabitants continued to drink as much spirits as before. To the State the loss on the almost complete removal of the taxation on "hygienic drinks" has been £1,404,408, which, though considerable, is less than that experienced by the city of Paris. The State loss on cider and beer does not amount to more than about £28,000. The first year after the application of the new system it was calculated that by the abolition of the taxes on "hygienic drinks" the State lost in revenue £1,431,064. This is a good price to pay so that the people may have wholesome wine at cheap rates but it is a smaller sacrifice than that incurred by the city of Paris. At the lowest computation—that is, counting economies made in the cost of collecting and adding to this other offsets—the net loss was set down at £1,707,388. Thus, and at the lowest estimate, the city of Paris and the French nation sacrificed £3,128,452 during the first year that these reforms were applied. This is the sum paid during the course of one year so that the French people might obtain the most plentiful supply possible of "hygienic drinks" almost entirely free from taxation, whether State or local.

If the *entente municipale*, of which we have heard so much of late, is to mean anything more than a demonstration of political sympathy between the capitals of the two nations concerned, surely this bold legislative and municipal attempt to deal with the temperance question should be carefully considered on this side of the Channel. Naturally, it will suggest the question whether it is possible to place "hygienic drinks" within the reach of the British public. It is true that we are not a wine-growing country, but beer is recognised as a "hygienic drink" if properly made. Already in the House of Commons a Pure Beer Bill was recently introduced stipulating that not less than 85 per cent. of the saccharine-yielding material employed shall be barley malt, without any addition other than hops, yeast, and water. The Bill was rejected but other similar efforts will be made. If ultimately some such law is rigorously applied it might then be safe to conclude that English made beer had become a "hygienic drink"; but would it be a cheap drink? Mr. Scott Wood, a director of Messrs. M. B. Foster and Sons, is reported by the *Tribune* to have stated to its representative that such a provision would not affect Bass's ale, "but many brewers of the cheaper table ales, 'the 2*s*. 6*d*. ales,' employ rice, grain (i.e., maize), and sugar. These brewers would find much of their plant useless under the Bill and the 2*s*. 6*d*. ales could not be profitably produced."

Of course, Munich beer, protected by laws more than 500 years old which render it a criminal offence to make beer with anything else whatsoever except barley-malt, hops, yeast, and water, may be considered an "hygienic drink." This was set forth by our investigations carried out on the spot and the minute analyses of the beer.[2] Further, Munich beer is cheap enough—in Munich. But what with duty and the cost of transport in ice it is not retailed in London at less than 5*d*. or 6*d*. the half litre and it does not contain half as much alcohol as sound French wines which can be bought in London for the same price—namely, 10*d*. to 1*s*. the litre. On the other hand, the ordinary Englishman, especially if he belongs to the working-classes, would probably take more willingly to Munich beer than to genuine French *vin ordinaire* mixed at table with about 50 per cent. of fresh water. Indeed, the idea of mixing wine with water is quite foreign to the English mind; yet it is the universal custom in France, and what a pleasant thirst quencher this provides in the hot, dry days of summer. Beer brewed in this country should be pure and cheap and no doubt such beers exist. At the same time and in the absence of any law beer is often made with glucose, which, it will be remembered, has been found to contain arsenic. The purchaser does not know what he is drinking; there is no legal guarantee of wholesomeness. The same may be said of many other countries and the one State that stands before the world as a model in this respect is Bavaria. That is why Munich beer comes to the front when mention is made of "hygienic drinks."

Now, however, that more wine is produced in France than can be sold, the question arises whether wine might not serve the purpose of a "hygienic drink" in England as well as in France. In considering this matter it will be found that there are not many people on this side of the Channel who know how very cheap wine has become. Some few years ago, and before the abolition of the *octroi* on wine, there was a specially abundant vintage. Consequently wine trains were despatched to the outskirts of Paris and there shunted on sidings. The people were invited to come with all the pitchers and pots and pans that they could find and to buy wine contained in the great iron tanks carried by the train. The price was 15 centimes the litre—that is, less than a penny a pint. Now to-day that the *octroi* on wine is abolished, and even when the vintages are not so very plentiful, wine can be purchased within the walls of Paris at 20 centimes or 2*d*. the litre. This is certainly the lowest price and the majority of people pay more. But a well-known grocer, whose shops are in all parts of Paris and who is especially patronised by the British colony, Felix Potin, offers in his price list red wine "guaranteed pure" at 25 centimes the litre. This firm claims to sell 60,000 litres or bottles of wine per day. So

[1] Parts I. and II. were published in THE LANCET of March 10th (p. 709) and 24th (p. 865), 1906, respectively.

[2] See THE LANCET, Feb. 16th, 1895.

as to get absolutely authentic information on this point, armed with an introduction from the Paris Municipal Council, I called on M. Albert Cuvillier, Président de la Chambre Syndicale des Négociants en Vins de Paris. The President of the Union of the Paris Wine Merchants assured me that the Potin wine, at 2½*d*. the litre, was excellent and quite pure, nor was there anything in the least degree surprising about this. He then took me to a great wine shed and invited me to taste several wines which, he said, contained from 9½ to 10½ per cent. of alcohol and which could be delivered in the cask to grocers and others at such a price as to yield a sufficient profit to the retailer if sold to the public at 2½*d*. the litre. As for adulteration, it did not pay to falsify such cheap wines, though there was no accounting for the stupid and, in the present circumstances, useless manœuvres to which some people resorted. Of course, there is a good deal of *coupage*, but there is nothing unwholesome in mixing highly coloured wines with wines that have less colour or a strong wine with a weak wine to obtain a medium wine. In any case, there is no difficulty in obtaining very large quantities of absolutely pure wine at from 2*d*. to 3*d*. the litre. But would it be possible to sell this wine cheaply enough in England? Even the cheapest wine would travel very well, except, of course, in the height of summer. Going through the figures carefully, which, of course, M. Cuvillier had at hand, he said that a barrel of wine containing 225 litres, or 50 gallons, paying 77 francs 50 centimes duty, would cost when delivered in London 70 centimes a litre. That is equal, as nearly as possible, to 4*d*. a pint, and it should be possible to retail such wine at about 5*d*. a pint. It would probably contain from 9 to 9·5 per cent. of alcohol and therefore some water could be added and the cost of the drink reduced to about 4*d*. a pint, the same price as the best English ales. This would be a "hygienic drink" but not a cheap drink. There are not many persons who can afford 4*d*. per meal for their drink. Therefore, if we want to utilise French wines to combat alcoholism in this country, the British Government must follow the example of the French Government and abolish all taxes and duties on "hygienic drinks." Then we could have perfectly pure sound wine at five farthings a pint, or, allowing for a small addition of water, at 1*d*. a pint.

Unfortunately, even if this could be done, the palate of the majority of people in this country has been so utterly spoilt by crude spirits, sophisticated wines, to say nothing of vinegar, patent sauces, strong pickles, and coarse, sodden tea, that when a thoroughly pure and natural wine is given to them they do not like it. Because it is not artificially sweetened they say it is sour; and because injurious spirits have not been added they say it is weak and thin. Wine merchants, who are merchants rather than social reformers, have long ago learnt how to manufacture a wine to suit the corrupted British palate. For this purpose dry currants are employed as they contain a great deal of sugar but artificial colouring matter has to be added. This sort of wine is sold wholesale to City and other firms for mixing purposes. It is not cheap. Sound genuine wine would not be dearer but it would not suit the ordinary ignorant British purchaser. The usual thing is to take half a barrel of this dry currant English-made wine which costs £1 10*s*. Then a quarter of a barrel of Spanish Rioja or Alicante wine is added which costs 15*s*. Another 15*s*. are expended in the purchase of the genuine French wine which gives its name to the unholy mixture. The duty on these foreign wines will amount to £1 10*s*. and there will be 5*s*. for carriage, so that the barrel of 225 litres, or 24 dozen bottles, comes to about £4 15*s*., or 4*s*. the dozen bottles. But to this must be added the price of the bottles, the corks, the metallic capsules, the labels, and the labour, so that altogether the mixture when bottled costs the merchant 6*s*. the dozen. This he will sell to the grocer for about 8*s*. the dozen and it is retailed to the public as French claret at 1*s*. or more a bottle. No wonder that persons who have been accustomed to drink this sort of mixture all their lives fail to appreciate a glass of genuine wine when it is given to them. Should a little alcohol of commerce be added then, instead of a "hygienic drink," we have something that might easily be injurious to health. Strong measures should be taken against any such mischievous deception.

But in spite of all impediments and duties perfectly wholesome and pure wine should be as cheap now in London as it was in Paris before the abolition of the *octroi* duties. Though there were deplorable exceptions, still, the Parisians, even with comparatively dear wine, were much more sober than the inhabitants of London. The state of France during the phylloxera, deplorable as it seemed to Frenchmen, would be a great improvement on what to-day exists in England. If wine can be retailed in Paris for 2*d*. to 3*d*. the litre it can be sold in London for 8*d*. to 10*d*. the litre. At a large grocer's shop situated within a hundred yards or so of the private residence which M. Loubet has occupied since he left the Palais of the Elysées I bought a litre of wine for 2*d*. Then in testimony of this transaction I photographed the part of the shop where the wine was retailed. This was easy to do as the wine was placed outside the shop on the street pavement. Of course I purchased the cheapest of the wines—namely, the *vin de l'Aude*—which was drawn from the middle barrel. Had I given 3*d*. I could have had Algerian wine, while for 4*d*. I could have indulged in Bordeaux wine. This litre of wine I carried with me in the heated railway carriage and the cabin of the boat. Then it had a good shaking on the Metropolitan Underground Railway and altogether my litre of wine had a varied experience of different temperatures above and below ground on land and on sea. Nevertheless, when it finally reached THE LANCET Office it was still sound and the flavour was

FIG. 1.

A grocer's shop where wine is sold at 20 centimes the litre.

quite palatable. Though this wine only cost 2*d*. the litre, or about 1½*d*. the English pint, it gave perfectly normal results on analysis. It has the same composition as high-class and consequently expensive clarets. In the latter case the purchaser has to pay above all for the bouquet, then for the comparative scarcity or limit of the supply, then again for the storage in cask and afterwards in bottle extending over several years, during which time a certain portion of the wine evaporates, occasionally an accident causes some of it to "turn," and there is always the interest on the capital invested to store and watch or nurse wines. It is necessary to understand why the higher-class wines must be comparatively dear so as to realise how it is that other wines can be extremely cheap. The latter have little or no bouquet. They come from vineyards that have acquired no special trade reputation; there is therefore no particular demand for such wines and the production is often greater than the sale. But these cheap wines are in every respect as healthy as the dear wines and therefore well suited to provide "hygienic drinks" to the great mass of the people. In the sample purchased for 2*d*. the litre and brought to London the only point open to criticism is the trace of a slight intensification of colour. Probably this good wine was sold cheaply because it was somewhat deficient in colour, and had it been allowed to remain so it would have been none the worse from the hygienic point of view, though perhaps it might not have sold so readily.

From this grocer's shop I proceeded a little way up the rue Monge and there photographed a small wineshop. Two typical market women, with their provision baskets on the ground, are sitting for rest and a gossip at the little tables placed outside on the street causeway. It may be remarked that the taking rest and refreshment in the open street or

behind glass windows indoors but still in view of all persons passing in the street, is a great guarantee for the maintenance of decent behaviour and sobriety. Here it will be seen by the posters and other announcements that wine is retailed at 25 centimes or 2½*d*. the litre and old wine (*vin vieux*) at 3*d*. the litre. Above there are announcements of various wines from 2½*d*. to 5*d*. the litre.

FIG. 2.

Wine shop and café, rue Monge.

In London the cheapest wine that I have been able to find is sold at 7½*d*. the litre. On analysis this wine does not appear to have been imported. In all probability it has been made in London, possibly from dried currants and also from the juice of grapes, pasteurised and then imported in an unfermented condition, so that there should be no duty charged.

Finally, I endeavoured to obtain not the cheapest but a really sound and genuine wine. For this purpose I sought out a French grocer, a refugee of the Paris Commune, whose shop, since the dark days of 1871, has been a centre for French political exiles. These poor men and women have for the greater part been accustomed from their childhood to the cheap natural wines that are such effective factors in maintaining the sobriety for which the wine-drinking sections of the French people have acquired a just and honourable reputation. In a quest such as mine it was absolutely essential to avoid dealers having English customers and an English reputation. A wine that has a ready sale among ordinary English purchasers must be looked upon with the gravest suspicion. The thing is to find out where poor French people buy their wine; and even this does not suffice, for they must be from the centre or south of France. Acting upon this principle I found two wines from the Bordeaux districts of Blaye and Bourge, where the cheaper wines or *vins ordinaires* of the Bordeaux *cru* are made. The former has a more emphatic flavour, while the latter is more delicate. Both leave in the mouth that clean fresh sensation typical of a light natural wine. There is nothing thick, treacle-like, heavy, or rough about such wines. It is the difference between muddy water and clear fresh water from a spring. On analysis the sample of the Bourge wine proved to be a genuine wine. In regard to the colour, the proportion of alcohol, which is 12·49 per cent. by volume, the nitrogenous substances, tannin, sugar, and the other ingredients all go to show that it is a pure, natural, wholesome wine. Here, then, is all that can be desired from the health point of view, if only the price were such as to place it within reach of the masses. As matters now stand it can only claim to be a "hygienic drink" suitable for the more prosperous artisan and the lower middle-classes. It is still too dear for the labouring and very poor classes who supply, in spite of their poverty, so large a proportion of the victims of alcoholism. But this wine would be in reach even of these classes if in England, as in France, all duties were removed from "hygienic drinks." At present this wine costs 10½*d*. the litre. This is equal to 6*d*. the English pint. But seeing that the proportion of alcohol is rather high this wine might, for drinking at meals, stand an addition of a quarter to a third of its volume of water and thus a very wholesome and pleasant drink could be obtained at 4*d*. or 4½*d*. the pint. Of course, these are retail prices, the wine being bought a litre at a time over the counter. Naturally a wholesale transaction would be cheaper.

Thus it will be seen that though the duty paid on wine is often much in excess of the price of the wine, still wine is now so cheap that it is available even in this country at a moderate cost. Therefore the temperance experiment which the French Government and municipalities have made on so extensive a scale could be attempted in England. Those sections of the community that are not absolutely poverty-stricken and are sufficiently intelligent to profit by the great object lesson we are now receiving from the other side of the Channel might endeavour to solve the temperance problem on these lines. The *entente cordiale* and the *entente municipale* will not be vain words if they serve to promote in England a knowledge of the fact that the evils of drink arise largely from the unwholesome nature of the drink. Given "hygienic drinks" these evils would be reduced to a minimum as is actually the case in those favoured wine-growing countries where pure wine is so abundant that dangerous spirits and unwholesome beverages are rarely consumed.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday.

THE annual report of the Birmingham Hospital Saturday Committee is a record of good work well done. It proves conclusively that the scheme has secured the goodwill and coöperation of all classes in the city. The working classes are particularly to be congratulated upon the aid which they have given to an institution which does so much for their members in times of trouble and distress. The collections for the year amounted to £18,722, or £200 more than any previous yearly collection. The contributors have increased in number, more patients have been sent to convalescent homes, and the expense per patient has been reduced. Birmingham has every cause to be proud both of its Hospital Saturday Committeee and of the amount that the committee has collected for the prosecution of the good work in which it is engaged.

The City Analyst's Report.

On the whole the report of the city analyst for the past year is satisfactory. There appears to have been a general diminution in the adulteration of foods except butter. Whether this is due to an increase of morality or a greater fear of punishment does not matter to the general public, who will be chiefly interested to know that the greater part of their food, and their milk in particular, is less tampered with than in the past. The fact that butter has been dear seems to have increased the tendency to fraud and of the 239 samples taken 23 were adulterated. In the ordinary course of events the added adulterants are frequently preservatives but 10·5 per cent. of the samples taken last year were adulterated in other ways and for the purpose of increasing the gain of the seller. An extremely interesting part of the report refers to the new water-supply. Our old supply contained from 30 to 40 parts per 100,000 of solid matter but the Welsh water only contains from 5·8 to 7·2 parts, of which about half is hardness. There was for a time some fear that the soft water would dissolve a dangerous amount of lead from the supply pipes. A careful investigation has shown that when the water has been standing in the pipes all night, and especially if the pipes are new, small quantities of lead can be detected, but the analyst is satisfied that there is no danger to health if the first quart or two drawn in the morning are allowed to run away. It should not be forgotten, however, that galvanised iron kettles yield a dangerous amount of zinc to some waters and that if kettles lined with tin are used care must be taken that the tin contains no lead, otherwise poisoning may result. Latterly a small amount of chalk has been added to the water and the hardness of the water has thus been slightly increased, but it still remains very soft and its colour has been less brown. It is interesting to note in association with the softness of the water that one of our public companies has acknowledged a saving of £100 a year on its soap expenses since the new water-supply was established.

The Housing Problem.

Within a fortnight we have had two interesting and extremely instructive lectures on the housing question, one delivered at the University by Dr. J. Robertson, the medical officer of health, and the other given to a very large audience at the town hall by Mr. J. S. Nettlefold, a member of the housing committee of the city council, who has taken

great interest in the problem. Both authorities were agreed upon the importance of rendering the houses in the central parts of the city as habitable as possible, but Dr. Robertson appears to look upon this matter as only a temporary expedient to tide over the difficulty until the time when suburban extension will relieve the present central congestion. What can be done, and is being done, was shown by Mr. Nettlefold by a series of lantern slides, and the changes for the better as regards light and air, which can be obtained in blocked courts by the removal of obstructing blocks and by re-arrangement, are most remarkable, whilst the reduction of the death-rate in the places already dealt with is most convincing as regards the value of the work on the general health of the city. The difficulties in the way of alterations and reforms are the rights of the property owners, the necessarily increased rental which the improved buildings command, and the dirty and careless habits of many of the lowest classes who inhabit the poorest houses. Gradually, however, all these difficulties are being overcome in the central areas, but if care is not taken and if the city does not obtain power to control and to supervise building in the suburbs it is most probable that conditions will arise there in the future which will be quite as bad as those now existing in the central areas. There can be no doubt that as regards the control of suburban building we are by no means so advanced as the cities and towns of Germany. Nor do we take care that sufficient space is retained for breathing purposes. With carefully thought out plans the necessary arrangement of the new buildings and the proper amount of vacant space could be secured at comparatively little cost, as Mr. Nettlefold pointed out, if arrangements are made before the property is ripe for building, but, unfortunately, as a rule we think little or nothing about the matter until the price of the land becomes prohibitive.

Child Life on Canals.

Hitherto very little attention has been paid to the children reared upon canal boats. Their health and welfare, however, are, or should be, of considerable interest to health and education committees. The Acts and regulations regarding canal boats are strictly enforced, yet the conditions of life and education are distinctly deficient when contrasted with those enjoyed by other sections of the community. This has been recently demonstrated so far as the boats associated with Birmingham are concerned, and it is to be presumed that the conditions are similar in other places, through an investigation carried out by Dr. J. D. McCrindle, the assistant medical officer of health, and by Mr. J. H. Broscomb, district inspector of schools. The living quarters in the boats are necessarily confined, but in spite of the fact that the air space is only 70 cubic feet per person as contrasted with 225 required in lodging houses, the physique and general health of the children examined did not appear to have suffered as contrasted with children of the same class in the poorer parts of the town. On the other hand, their education was deplorably deficient. Only 3 per cent. could read fairly well. Many did not know the value of any but bronze coins, few could write, and their knowledge of numbers was very small. The few that had any educational equipment lived entirely ashore for a continuous period and apparently, if it is thought advisable that this class should be further educated, it will be necessary to obtain power to make the parents let the children live ashore for a certain period. Under present conditions, as the annual number of attendances the canal boat children make at school shows, it is quite impossible for them to acquire that amount of knowledge which it is generally thought every child is entitled to. Dr. McCrindle found it extremely difficult to get information regarding the deaths of children. In 19 boats no information at all could be obtained; from the other 40 which he examined he ascertained that apparently 70 per cent. survive and that the deaths which occur are due to diarrhœa and wasting diseases.

April 3rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Ladies' Charity and Lying-in Hospital.

THE number of patients attended in the outdoor department last year was 1847, as against 1900 in the year 1904. The number of patients attended in the hospital was 322, as against 281 in the previous year. 11 of these were single girls (first cases only being received) admitted by the ladies' committee for treatment after investigation had shown them to be deserving of consideration. In the school of midwifery 63 pupils were trained during the year. 21 medical students took their midwifery practice with the charity during the year in accordance with arrangements with the University of Liverpool. This showed a considerable increase and the board was pleased to note that its arrangements were meeting the needs of Liverpool students.

University of Liverpool; Graduation Ceremony; University Prizes.

The following students in the faculty of medicine were admitted on March 27th by the Vice-Chancellor to degrees: Doctor of Medicine, Hubert Gordon Thompson; Bachelor of Medicine and Bachelor of Surgery, Austin William Byrne and James M'Clellan. The following awards are also announced: University Scholarship in Medicine, Thomas William Jones; Derby exhibition in clinical surgery, Robert A. Hendry; Torr gold medal for anatomy, Ethel M. Baker; Holt medal for physiology, Thomas William Jones; and Gee prize for diseases of children, George C. Barnes.

The Health Committee and Chicken-pox.

In consequence of the cessation of cases of small-pox in Liverpool the health committee has issued a notice to the local members of the profession that chicken-pox has been removed from the schedule of notifiable diseases.

Donation to the David Lewis Northern Hospital and the Royal Southern Hospital.

The treasurers of the David Lewis Northern Hospital and the Royal Southern Hospital acknowledge with thanks the receipt of £2350 each from Mr. John Elliott (the trustee), being the proportion of the estate of the late Mr. C. H. Lear assigned to the two hospitals for investment.

Extension of Warrington Infirmary.

Plans have been prepared for the erection of a new pavilion with three wards to accommodate 66 extra beds. The scheme, which was adopted by the governors, will cost between £10,000 and £12,000. Mr. W. Long of Grappenhall has sent a donation of £1000 towards the extension.

St. Helens Health Committee and Consumptive Patients: Decision of the Committee.

At a meeting of the St. Helens health committee held on March 28th a lengthy report was submitted by Dr. J. J. Buchan, the medical officer of health, on the inquiries he had made as to the manner of isolating consumptive patients in the vacant wards of the fever hospitals at Manchester, Edinburgh, and Brighton, reference to which was made in THE LANCET of March 24th, p. 868. At Manchester the patients were being treated in cottages near the hospital. Dr. Buchan gave details of cases recently reported to him which urgently called for isolation. The chairman moved that the medical officer of health be empowered to admit cases to the sanatorium on the same lines as fever patients were admitted and that all cases be reconsidered every month, when it could be determined whether to retain or to discharge them. The motion was adopted. The question was mooted whether cases should be admitted to the hospital in advanced or early stages. Dr. Buchan considered that he should not be tied to any hard-and-fast rule. Mr. H. B. Bates considered that the advanced cases, being the most infectious, should have the preference in order to prevent the spread of infection. The matter can be safely left to the medical officer's judgment.

Blackpool Sanatorium: Reopening after Enlargement.

The Blackpool Sanatorium was reopened on March 26th after enlargements which have cost about £16,500. Though the institution is still incomplete there is now accommodation for 54 beds and eight cots. When the whole scheme is completed, including another large block for 22 beds and a discharge block and porter's lodge, estimated to cost about £6500 more, the total cost, including land, buildings, furnishing, &c., will have been about £33,900, the cost per bed working out at about £424. There will then be room for 76 beds and eight cots. Dr. F. J. H. Coutts, the medical officer, in his comments on the extensions, says that they will very materially improve the conditions as to hospital treatment of infectious diseases. It will enable them to give a much larger air space for each patient than had hitherto been possible. He adds that it has been a matter

of great regret to him during the past few years that over and over again he had to refuse to take in cases of diphtheria, frequently with the result of extension cases occurring. The possibility of isolating doubtful cases for a few days would also be a great gain, and there would also be the advantage of isolating cases of mixed infection, the want of which had often caused much embarrassment in the past. The formal ceremony of inauguration was performed by Alderman T. H. Smith, the chairman of the health committee.

April 3rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Typhoid Fever at Bridgend.

TYPHOID fever has been endemic in Bridgend for many years past and although the medical officer of health (Mr. Wyndham Randall) has frequently urged upon the urban district council the importance of appointing a sanitary inspector who should give his whole time to the duties of his office the council for a long time was satisfied with adding the inspector's duties to those of the town surveyor. After the serious outbreak of last year, however, an officer was appointed as assistant inspector and his principal duties were to be the testing of the house drains in the town. By means of the smoke test he found during 12 months 224 defective drains and it might have been supposed that the discovery alone of this large number would have been sufficient reason for continuing his services. It is to be regretted, therefore, that the district council should have decided to dispense with the services of this special officer and to revert to the former system combining the offices of surveyor and inspector of nuisances. It is true that instructions have been given to the surveyor to devote two days each week to the work of testing house drains, but even then it must take three years to carry out the same amount of work which has been performed in the past 12 months by a man wholly employed in it. It is due to the inhabitants of the town to say that the retrograde action of the district council is not supported by the local press or by the medical profession. It is pleasing too to find that the local branch of the Amalgamated Society of Railway Servants has strongly urged upon the council the desirability of continuing the systematic inspections of the past year.

Health Report of Bath.

The annual report of the medical officer of health of Bath (Dr. W. H. Symons) is of interest as showing a steady decline in the birth-rate during the past 40 years. In 1867 it was 25·7 per 1000 of the population and in 1905 it was 19·7 per 1000. But Dr. Symons very properly points out that in comparing the birth-rate in Bath with that of the rest of England and Wales it is necessary to make certain corrections, for in Bath there are only 95 young married women per 1000 of the population, while in the rest of the country there are 117 per 1000. The corrected birth-rate in Bath in 1905 was thus 24·2 per 1000. After making this correction the fall in the Bath birth-rate is seen to anticipate the fall in the birth-rate in England and Wales by about ten years. In 1881 the corrected birth-rate in Bath was about equal to that recorded in England and Wales in 1891 and the rate for Bath as corrected was 26·7 in 1895, the rate in rural England in 1905 being 26·8, and in the whole country 27·2 per 1000. The sanitary department of the city of Bath has been much improved under Dr. Symons's administration. One of the most important innovations due to his initiative is the method of receiving notice of and tabulating deaths. Copies of death certificates are sent to him on cards provided for the purpose within 24 hours of registration, so that prompt inquiry may be made and rooms disinfected before they are taken into use after deaths have occurred. A separate card is used for each death, so that tabulation is facilitated with a minimum of clerical work. The concluding remarks in this report ought to be brought under the notice of those who are prone to criticise the work of sanitary officials. The duties of a medical officer of health, says Dr. Symons, bring him into conflict with many private interests and great responsibility attaches to most of his actions. The tendency is to give such an officer the maximum of responsibility with the minimum of control; to be successful he must be quick to think out a problem to the end but slow to speak. Success in preventing disease necessarily attracts no notice, but a failure, a single false step, a thoughtless remark, or perhaps a mishap which he could not prevent, is patent to everyone.

The Colston Society.

The annual banquet of the Colston Society in connexion with University College, Bristol, was held on March 30th. The President (Mr. J. Arrowsmith) announced that he had received promises of £30,000 towards £150,000 required for the foundation of a Bristol university. The guests of the evening were the American Ambassador (the Hon. Whitelaw Reid) and the Right Hon. Augustine Birrell. Lord Strathcona, who was unable to be present, sent a cheque for £500 to the funds of the society. Sir William Selby Church, the new President, in a brief speech acknowledged his election.

Shell-fish and Enteric Fever.

Principally at the instigation of the Torquay corporation the Devon county council has decided to apply for powers to deal with the river Teign under the Rivers Pollution Prevention Act on the ground that cases of enteric fever have been traced to the consumption of sewage-contaminated cockles taken from the estuary of the river. The Teignmouth urban council and Newton Abbot rural district council have decided to petition the Local Government Board not to comply with the application owing to the heavy expenditure that would be required to prevent the discharge of the sewage of Bishopsteignton, Teignmouth, and other places into the river.

The Yeovil Board of Guardians and Vaccination.

At a meeting of the Yeovil board of guardians held on March 24th, a member submitted a motion in favour of the abolition of compulsory vaccination, remarking that the present law was absolutely without justification and the practice of vaccination cruel and loathsome. In opposing the motion a member stated that the medical profession were practically all in favour of vaccination which showed that it was manifestly of advantage to the country. The chairman said that if there was nothing in vaccination it was surprising that foreign nations should have adopted it. There was a long discussion and on a division three voted for the motion and 29 against.

April 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Town Council and Pulmonary Tuberculosis.

A SPECIAL meeting of the Edinburgh town council was held on March 27th for the purpose of considering a report by the public health committee recommending that temporary accommodation should be provided at the city hospital for 50 advanced cases of pulmonary tuberculosis. Mr. Gibson, the convener of the committee, submitted the report. He said that the committee had come to the conclusion that there was a plain duty incumbent upon the town council to devise means to deal with cases in the last stages of the disease which were to be found in houses of inadequate accommodation. The cost of providing for 50 such cases was estimated at £1000 per annum. The result of such action as was advised would be the immediate abstraction of 50 sources of dangerous infection. The experience of a similar institution in Paris was that the average life of such patients was three months and on that basis they would deal with 400 cases per annum, but if only half that number was dealt with there would be a large reduction of dangerous risk. Since 1898 the public health committee had been:—1. Inquiring into the mortality from tuberculosis. 2. Distributing leaflets directing attention to the need of fresh air, to the necessity of destroying the expectoration from infected persons, to the thorough disinfection of bedding and body clothes, to the fixing of notices on lamp-posts requesting people not to spit on the pavements, and to the notification of cases. The local authority was now invited to approve of the proposal that provision should be made in the city hospital for the most dangerous cases. Last year there had been about 500 deaths from tuberculosis and in only 210 had the offer of the committee to disinfect the houses been taken advantage of. As regarded the notification of the disease, he thought that at no distant date the council would accept compulsory notification as a necessity and as a distinct advantage. He proposed that ward 5 in the city hospital and one cottage should be used for

the purpose. Dr. Cullen seconded the recommendations and pointed out that 80 per cent. of the deaths had occurred in houses under £20 rental and held that their plain and pressing duty was to provide the accommodation recommended. Dr. Robertson also supported the proposal. Some criticism and opposition were offered by several of the members but were ultimately withdrawn and the recommendations of the public health committee were unanimously agreed to.

Edinburgh Church of Scotland Deaconess Hospital.

At the eleventh annual meeting of the supporters and friends of this hospital it was stated that during the past year there had been 415 patients received, as compared with 341 the previous year. The death-rate had been 4·7 per cent. The district nurses had visited 594 cases. The expenditure for the year was £1808, making the expenditure per bed £57 6*s.* 8*d.* The income was, for the first time, not equal to the expenditure. In supporting the report Dr. J. Playfair, President of the Royal College of Physicians of Edinburgh, spoke of the good work which the hospital was doing and thought that compared with the cost of other hospitals they were getting good value for their money.

Professor Sims Woodhead in Glasgow.

Recently Professor G. Sims Woodhead visited Glasgow in his capacity as President of the Temperance Collegiate Association and addressed several large meetings on the subject of Alcohol and Disease. In his honour a banquet was given by the Lord Provost and health committee of the city, a large proportion of those present being medical men.

Vaccination in the Eye.

An unfortunate accident has happened to a medical man in practice in Greenock. While breaking a tube of vaccine lymph a splinter of glass entered his eye which in a few days exhibited the usual signs of successful vaccination. It is probable that the resulting impairment of vision would have been more serious but for the fact of his having been revaccinated two years ago.

Lane Lecturer at San Francisco.

Dr. J. C. McVail, the medical officer of health of the counties of Dumbarton and Stirling, has received and accepted an invitation to be the next Lane lecturer in the Cooper Medical College, San Francisco. This lectureship was founded some ten years ago, the first lecturer being Sir William Macewen, and since then several eminent British medical men have been similarly honoured. The course consists of ten lectures in the month of August and they are largely attended not only by the medical men of San Francisco but also by the general public. Dr. McVail's subject will be "Hygiene." The county councils of Stirling and Dumbarton have readily consented to allow Dr. McVail the necessary leave of absence.

April 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of William Logan, M.D. St. And., M.R.C.S. Eng.

I REGRET to report the death of Dr. W. Logan which took place at his residence Knocknagulla, Whitehead, co. Antrim, on March 26th, in his seventy-first year. The deceased gentleman was a native of Straidnahanna, near Carrickfergus. In his early life he studied at Queen's College, Belfast, for the medical profession and graduated in 1862 M.D. of St. Andrews; in the same year he became M.R.C.S. Eng. For many years he practised in Belfast and afterwards in Yorkshire, where his arduous duties so undermined his health that he had to retire from practice and to return to Ireland, where he lived near Whitehead. Dr. Logan is survived by his widow and he leaves two sons and a daughter, all three being members of the medical profession.

Royal Victoria Hospital, Belfast.

At the annual meeting of the friends of this institution held on March 28th a very satisfactory report and financial statement were submitted. As to patients, 2838 new intern and 25 917 extern cases were treated, and 1117 surgical operations were performed with a 4·4 per cent. mortality. Patients are arriving in increasing numbers from all parts of the north of Ireland for surgical treatment. Financially, the net receipts from all sources were £14,877 11*s.* 7*d.* and the disbursements of all kinds amounted to £14,735 0*s.* 1*d.*, leaving a small surplus as balance of £142 11*s.* 6*d.* The chairman (Mr. R. H. Reade, D.L.) spoke of the singular comfort and cheerfulness of the wards and of the plenum system of ventilation, which had answered its purpose admirably. By it "they had," he said, "been able to obtain a fresh current of air without any draughts, the temperature had been maintained at the desired point, and, further, there was an advantage not anticipated—namely, that they had been absolutely free from flies in the summer-time." It is interesting to know that the cost of the patients has been only 2*s.* 2½*d.* per day during the past year, or 6*d.* less than in the preceding one; in 1903 the time spent in hospital was, on an average, 26 days; in 1905 it was 24½ days. Dr. H. L. McKisack (secretary of the medical staff), on behalf of his colleagues, said that they had every reason to be satisfied with the administration of the hospital. They hoped the additional four wards would soon be opened.

Tughan v. Darnell.

A joint meeting of the Ulster branch of the British Medical Association and the Ulster Medical Society was held in the Medical Institute, Belfast, on March 29th. Dr. W. Calwell occupied the chair and there was a very large attendance of the members of the medical profession. Sincere sympathy was expressed in reference to the result of the action with Mr. C. K. Darnell. After a long discussion it was decided to take the opinion of counsel as to the effect of the law on the medical profession as it was interpreted by the judge in the case, Chief Baron Palles. I understand that a meeting of the profession will be called later; in the meantime notice of appeal has been given.

Action by a Nurse against a Medical Man.

Mrs. Harvey, a midwife, brought an action for slander against Mr. Richard Dalton, a physician practising in Cork. The case came on for hearing on March 24th before the Lord Chief Justice, and the court was crowded. Mrs. Harvey usually takes what are called "running cases"—that is to say, she might attend several women in labour in the one week. She attended a Mrs. Donovan and some time afterwards Mr. Dalton was called in to see the baby. The nurse stated that she was present on the occasion of his visit and that he informed her that the child was "rotten with syphilis." In further evidence she said that having heard rumours that she had conveyed contagion from a case of puerperal fever to the infant she, accompanied by her mother who is also a midwife, called on Mr. Dalton who then told them that the child was suffering from cellulitis and they asked him why he had changed his diagnosis in the meantime. Describing the condition of the child on the occasion of Mr. Dalton's first visit she stated that the umbilicus was quite healed. Mr. Dalton in his evidence denied positively that he had ever stated the child had syphilis and added that it was from the nurse herself the suggestion came; that she had said to him that the illness of the child was due to the condition of the father's blood. He swore that he never treated the child for syphilis, as it was from omphalitis and spreading cellulitis that the little patient was suffering and that he had registered the death as being due to spreading cellulitis. In the course of further evidence it appeared that Mrs. Harvey, some days after she had delivered Mrs. Donovan, attended a Mrs. O'Veill who developed puerperal fever, was removed to the workhouse hospital, and died there. The nurse swore that when in attendance on Mrs. O'Veill she was not aware that she was suffering from puerperal fever, that she delivered several other women soon afterwards, and that all of them recovered without exhibiting any abnormal symptoms. It further came out in evidence that the father of the child Donovan, who was very indignant on hearing the rumour that he had transmitted syphilis to his child, put the sanitary authorities in motion, with the result that the corporation van arrived at the nurse's residence for the purpose of removing her clothes for disinfection. The case was at hearing during the whole day and the judge, when addressing the jury, charged markedly in favour of the plaintiff. The jury retired and after about an hour's deliberation brought in a verdict for the defendant and judgment was marked accordingly. As the evidence was so contradictory many considered that the task of the jury was a difficult one, but it now turns out that they did not discuss the question of veracity, as they came to the conclusion that the communication made by the defendant to the plaintiff in the presence of her mother was privileged. It is interesting to note that the judge in the

course of his charge informed the jury that according to law a statement could be malicious though the person uttering it entertained no ill-will. The following day another action for slander by the same nurse against the father of the child Donovan was at hearing before Mr. Justice Johnson, the other judge of assize. The defendant in the course of his evidence stated that in notifying the sanitary authorities he was influenced by the desire to prevent other people from suffering as he had suffered. The jury that tried the case brought in a verdict in his favour. The nurse had an action for slander against a third party, also in connexion with the death of the child Donovan, but counsel of both sides asked for a postponement till next assizes and the judge ruled accordingly.

April 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Prevention of Contagious Diseases in Bathing Resorts.

AT a meeting of the Academy of Medicine held on March 20th M. de Rance called attention to the fact that the danger of the propagation of contagious diseases is much less in villages, where the population is more or less scattered, than in the urban mineral water resorts, where at the height of the season there is decided overcrowding in some hotels at certain periods of the year. The aggregation of individuals and the special predisposition to further illness which exists among persons who are already in bad health, weakened, or depressed, are also favourable to the transmission and propagation of disease. Moreover, if such transmission of disease cannot be prevented and an epidemic is threatening the result may be a panic which will empty the hotels and villas. Interests which deserve consideration are therefore at stake. The medical man ought accordingly to place the patient in the best conditions for recovery, ought to take all necessary measures for preventing infection, and in the general interest ought to allay public apprehension. If there is no isolation hospital reserved for contagious diseases the patient might be removed to a house or villa fulfilling the conditions necessary for isolation and disinfection. Sometimes, however, a patient had to be kept in an hotel and prophylactic measures, no matter how carefully designed, were a failure. For the efficient carrying out of such measures it would be necessary, in the first place, to confer the requisite authority on the medical man and the mayor of the district and, secondly, to place at their disposal a building where strict isolation and disinfection could be enforced.

Action of the Extract of Cotton Seed on Human Milk.

At the same meeting of the Academy of Medicine M. Gilbert communicated a paper by M. Barlerin on the chemical modifications presented by human milk under the influence of extract of cotton seed. M. Barlerin administered the extract to women who attended the Belleville dispensary and were about to wean their infants on account of their milk being deficient both in quantity and in quality. Among all these women in from two to eight days after taking the extract M. Barlerin found an improvement in the quality of the milk. This improvement had reference chiefly to the proportion of the fatty and albuminoid constituents; the amount of fat contained in the milk increased on an average by 18 grammes per litre, or 50 per cent. of the quantity existing before the experiment. The casein increased on an average by from five to seven grammes per litre, or 48 per cent. of the previous proportion. From these experiments it therefore seems that the administration of small quantities of extract of cotton seed to women who are giving milk brings about a considerable increase of the fat and casein in the milk. This discovery may have important consequences. All medical men are unanimous in the opinion that artificial feeding is one of the causes of the considerable infant mortality which prevails in France, and especially in some of the large towns. Extract of cotton seed may therefore in the majority of cases render maternal suckling possible. It must, however, be remembered, on the one hand, that milk which is deficient in fat and casein does not adequately nourish the infant, while, on the other hand, milk which is too rich in casein, and especially in fat, is no less objectionable on account of its liability to produce gastric and intestinal derangement. Extract of cotton seed seems to be an active substance and therefore ought not to be used unadvisedly. The medical man ought always to watch its effects, to regulate its administration according to the weight and state of the child, and to stop it when the object in view has been attained.

April 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Infant Life Protection.

AN exhibition dealing with the question of infant life protection has been lately opened in Berlin under the management of a committee including medical men and philanthropists. The care of infants is a subject of deep interest at the present time, especially in Berlin, where an enormous mortality prevails among the infants of the poorer classes. The researches of Professor Behring on the transmission of tuberculosis by food, the endeavours which have been made to provide the infants with pure milk, and other topics which have been discussed in the newspapers have fixed the attention of the general public on the matter. The exhibition is therefore of a popular as well as a scientific character and has for its object the instruction of the public, and especially young mothers, in the upbringing of infants. The exhibition includes six departments, the first of which is devoted to statistics and displays statistical tables compiled by the Imperial Health Office and the statistical offices of several towns showing the mortality of infants and the dependence of this mortality on food, climate, the prevalence of tuberculosis, &c. The second department deals with the development and the diseases of infants. Graphic curves showing the weight of children reared on natural and on artificial food respectively, anatomical specimens, &c., may be seen here. The third department is concerned with the physiology and pathology of nutrition. Chemical researches on human milk and on that of the lower animals, specimens of the bacteria present in milk, and descriptions of the method of milking are the principal objects of this department. The fourth department gives details of the official work done for the health of infants, such as the providing of dispensaries and homes for them, the examination of milk and the control of its sale by the authorities, model cow houses, &c. Much apparatus and many appliances for the sterilisation and the transport of milk and for the supply of it to the larger cities are striking features of this department. The fifth department has for its subject the care of infants in families; it contains model nurseries with beds, milk bottles, sterilising instruments for private use, &c. The sixth and last department deals with the care and supervision of foster-children and the control of the foster-parents by the authorities and by societies. It may be seen from the above description that the exhibition contains abundance of interesting material. It has been visited by thousands of mothers and it may therefore be hoped that it will contribute to the welfare of the future generation.

Poisoning by Saccharin.

Dr. Luth of Bajohren, a town on the Russian frontier, writing to the *Berliner Klinische Wochenschrift*, describes the case of a woman who after a dispute with her husband had swallowed about two grammes of saccharin. When a medical man arrived about 15 minutes later he found her lying on the floor and her condition was at first supposed to be due to alcoholic intoxication. She was unconscious, her face was flushed, she foamed at the mouth, and suffered from convulsive attacks with choking; her respiration was frequent and her pulse was weak, very quick, intermittent, and irregular. Under artificial respiration and massage of the heart the pulse within half an hour became stronger and regular and the respiration became normal. After about 45 minutes the patient awoke and was quite well. Poisoning by saccharin is rather rare. It is remarkable that severe symptoms occurred within only a few minutes and as rapidly disappeared. In Germany saccharin is sold to the public only on medical prescription and the woman had therefore purchased the drug from a neighbouring Russian pharmacy.

The Association for the Prevention of Venereal Diseases.

The German Association for the Prevention of Venereal

Diseases held its annual meeting on March 11th in Berlin, Professor Neisser of Breslau being in the chair. Dr. Blaschko, the general secretary, reported that the association had now 5000 members and included 22 local committees; 1,500,000 copies of the pamphlets or leaflets published by the association had been distributed to the public. He also said that the newspapers now permitted subjects of this kind to be discussed in their columns and that there were only a few places where the work of the association was opposed by false prudery. After the inaugural business had been transacted a question relative to clubs under the Workmen's Insurance Laws was discussed. The principal sick clubs had on several occasions sent delegates to hygienic congresses, but one of the law courts had recently decided that it was illegal for these clubs to use their funds in paying the expenses of the delegates. As it is highly desirable from a hygienic point of view that representatives of the working classes should continue to take part in this and other hygienic congresses a motion was adopted requesting the Government to amend the legislation on that subject. The association then discussed the statistics of venereal diseases and adopted a motion to the effect that a collective investigation concerning the spread of these diseases should be carried out under the control of the Government medical department. Medical practitioners and the hospitals would be invited to take part in the investigation which would, of course, be strictly confidential. Dr. Blaschko then drew the attention of the association to a point raised in the Prussian Diet where Dr. Münsterberg, a medical member of the House, had adverted to the laws concerning prostitution. He had suggested the appointment of an extra-parliamentary commission for the purpose of discussing this question and recommending alterations of the laws at present in force which were quite inefficacious. The Minister of the Interior had agreed with Dr. Münsterberg and Dr. Blaschko wished that the association should also be invited to send delegates to the Government commission. He said that two parties of essentially divergent views—namely, those who were opposed to any control of prostitution and those who were in favour of such a control—were both represented in the association and that they had been able to coöperate notwithstanding their differences of opinion. A motion, proposed by Dr. Blaschko, was adopted to the effect that the association desired an amendment of the laws and regulations concerning prostitution and that it was advisable that delegates of the association, men and women, should take part in the work of the extra-parliamentary commission appointed by the Government.

April 2nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Normal School for Girls in Cairo.

TEN years ago the census taken in Egypt showed that of the female population more than 99 per cent. were unable to read or to write. Since then encouragement has been given to parents to send their girls as well as boys to the elementary schools called "kuttab" and this they seem quite willing to do. The normal school, now in its third year, is for 40 boarders, all Mohammedans of the poorer class, who during two years are trained to become teachers of the kuttabs for girls. They vary in age from 12 to 18 years and are taught by a competent Corsican lady and several native assistants. On being drafted from the kuttabs they already know the rudiments of reading and writing Arabic and can recite by heart passages from the Koran. They are made proficient in these subjects and are also taught arithmetic, geography, history, gardening, cooking, laundry work, and ironing. They learn the theory and practice of teaching by means of a special kuttab of 90 girls, aged from six to ten years, who go every day to the normal school to be taught. They are given a free lunch, consisting of bread, lentils, and vegetables, with meat twice a week, all cooked by the pupil teachers. A playground is attached to the school, where skipping seems to be the favourite pastime. At the end of the two years' training the girls undergo an examination and are appointed as teachers or assistant teachers in the kuttabs under the supervision of the education department. This is the first time that any serious effort has been made in Egypt to give instruction to the girls of the poorer folk. I was much struck with the general air of health and cleanliness among the teachers and the taught, who are visited daily by Miss C. B. S. Amos, M.B. Lond., who has lately been appointed medical inspector of all the girls' schools belonging to the Egyptian Government. The building in which this school is situated in Bulak awakens memories in an old resident. 30 years ago it was the only lunatic asylum in Egypt, notorious for ill-treatment, starvation, heavy chains, and flogging. Then when the hapless lunatics had been moved to their present quarters in the desert it became a prison for females and a temporary nucleus of malaria. Then it was renovated, the breeding places of mosquitoes were destroyed, and it was opened as the first reformatory for boys. When the law courts discovered its existence and filled it with young thieves it had again to be abandoned and is now the happy home of many bright-eyed maidens. 13 of the existing teachers in the elementary schools have been trained in this normal school.

Central Sanitary Board for the Soudan.

Sir R Wingate, the Governor-General of the Soudan, approved last October the establishment of a new board to advise the Soudan Government on general medical and sanitary questions, including the treatment of epidemics. The president is Colonel G. D. Hunter, D.S.O., R.A.M.C., and the members are eight in number, including the director of the Soudan Medical Department (Dr. J. B. Christopherson), the medical officer of health of Khartoum (Dr. A. Balfour), three medical officers of the Egyptian army, and a sanitary engineer. This is a great advance, for the board will have to examine all schemes for medical and sanitary development, besides all legal ordinances and budgetary proposals connected with the public health.

Sleeping Sickness.

It is believed that this disease is not likely to occur in Egypt but the Egyptian Government has voted a sum of £1000 towards the cost of the programme proposed by the Royal Society for work in the direction of Uganda and will probably continue this grant for two more years.

Cairo, March 26th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Prevention of Tuberculosis among Government Employees.

AN important order has been issued by direction of President Roosevelt, the object of which is to protect Government employees from tuberculosis. The order is based on the report and recommendations of a committee appointed to inquire as to the dangers of tuberculosis in Government offices. The President's order directs the surgeon-generals of the Army, Navy, and Public Health Service to cause an immediate inspection to be made of the public buildings and workshops under their respective departments, and to report all insanitary conditions immediately remedial, and all insanitary conditions requiring structural changes. The public buildings not in these departments are to be inspected in like manner under the direction of the surgeon general of the Public Health Service. The order further provides that whenever there is a doubt with regard to any person in the Government service as to whether the said person is affected with pulmonary tuberculosis an order shall be issued for the said person to present himself (or herself) at one of the Government laboratories for examination and to present to the department, from the director or other authorised officer of the said laboratory, a certificate showing the result of the said examination. Having obtained the names of all persons affected with tuberculosis in any department the head of the said department shall present to each person so affected the rules prescribed by the committee for their observance. The non-observance of such rules by the employee shall, in the discretion of the head of the department, be considered as a just cause for separation from the service. It is also made the duty of the head of each executive department at Washington to cause to be transmitted to all the federal buildings under his control the rules prepared by the committee to prevent the spread of tuberculosis in the buildings and to cause their display by the custodian in such manner and in such number as is necessary to carry out the intent of the rules.

Accurate Labels on Patent Medicines.

Public interest has been aroused to the dangers of patent medicines by investigations which have revealed the fact that many of them contain such dangerous ingredients as acetanilid, cocaine, morphine, and wood alcohol. Occasional deaths have been attributed to the free use of these medicines by the public. To regulate the sale of these drugs a Bill has been introduced into the New York legislature by a society of physicians which prohibits the manufacture and sale of medicinal preparations, including so-called "foods," which contain alcohol or certain other narcotic or potent drugs, unless the presence and percentage of such ingredients are revealed on the label in plain English. Where alcohol has been used as a solvent, preservative, or for any other purpose it is deemed an ingredient in the medicine. The label shall constitute a warranty which may be availed of by an injured party. The Bill does not apply to preparations intended solely for external use, or to the dispensing of compounds or prescriptions by legally authorised physicians, dentists, or veterinarians, or to preparations in the pharmacopœia of the United States or the National Formulary unless sold under a proprietary name or trade mark.

Euthanasia.

The question of legalising the act of taking the life of a patient by a physician under certain conditions, has taken an acute form by the introduction of a Bill in the Iowa State legislature making the necessary provision for such a procedure. The Bill is aimed to secure an immediately painless death to persons suffering from a painful disease which will certainly end in death, and to prevent the rearing of hideously deformed children and hopelessly idiotic children. The Bill requires that at least three physicians and the county coroner must unanimously agree to, and participate in, the act, and the consent of the nearest relative and, if possible, that of the patient must be obtained. Any deviation from the proceedings described constitutes murder and subjects the offender to the penalty of murder. The Bill provides a heavy fine for any physician who fails to perform his duty under this measure and also prescribes the usual penalty for murder in the first degree in cases of abuse of the law.

Japanese Naval Sanitation.

At a dinner given at Chicago to Baron Takaki, surgeon-general of the Japanese navy, the distinguished guest stated that when he entered the navy three-fourths of the entire sick list were made up of patients suffering from beri-beri. In his study of the conditions under which the disease appeared he concluded that the ration of the navy contained too great a proportion of carbohydrates and too little albuminates, for he discovered that the prevalence of beri-beri varied directly with the variation of these food constituents. He endeavoured to change the constituents of the ration by the issue of barley in place of part of the rice ration. Strenuous opposition was made to the change by the officers and men and it required a long and severe struggle to effect the reform, but he finally succeeded and beri-beri practically ceased to exist in the navy. He stated that this disease can be artificially produced and that it can be prevented by diet. Referring to the dead and wounded in the Russo-Japanese war he said that up to Dec. 5th, 1905, the total number of dead and wounded was 3689, of whom 1892 died instantly and 117 died subsequently, leaving a balance of 1680. The death-rate was 54 per cent., and more than 90 per cent. of the wounded returned to duty.

Health Conditions on the Isthmus.

The constant agitation in regard to the health conditions on the Isthmus maintains an active public interest in the affairs of the Panama Canal enterprise. The unfavourable reports of transient visitors to the region of the canal operations have lately caused much anxiety on the part of Congress and have led to very critical inquiry by its committee as to the actual sanitary conditions existing there. The report of the chief sanitary officer, Surgeon Gorgas, shows conclusively that the health of the labourers on the canal is remarkably good considering the fact that these labourers are largely unacclimatised. In January there was an average of 22,000 employees on the rolls; the average daily number sick was 503, or 22 per 1000.

March 24th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Pasteur Institute.

THE usefulness of the Pasteur Institute at Kasauli is becoming more recognised and with each succeeding year a larger number of patients resort to it for treatment. Last year there were 877 patients as against 612 for 1904. Of last year's patients 307 were Europeans and 570 were Indians. Although provinces near the institute naturally contribute the largest numbers, all parts of India send patients. Burma, Assam, Madras, Sikkim, and even Ceylon and Aden each sent a few. The present director is Captain G. Lamb, I.M.S., who was appointed last year when Lieutenant-Colonel D. Semple, R.A.M.C., the former director, was appointed the head of the Central Research Institute. Of the cases treated 750 were for dog-bites and 105 were for jackal-bites. Three cases developed hydrophobia while under treatment; two of these were the result of bites from jackals. It should not be forgotten that besides the work in treating cases of rabies the institute prepares antitoxic sera for diphtheria, tetanus, and snake venom. The total value of these sera issued amounted to Rs. 18,656. The anti-venomous serum now issued is prepared with a mixture of cobra and other poison.

The Proposed X Ray Institute at Dehra Dun.

It is announced that the Government of India has decided, with the approval of the Secretary of State, to establish an institute in India as a centre for the practical instruction of medical officers and subordinates in the use and management of the x ray apparatus and as a depôt for the storage and repair of such apparatus. The institute will be located at Dehra Dun and will be under the charge of an officer of the Indian Medical Service. Classes of instruction will extend over a period of three months and facilities will be given to officers who may be desirous of acquiring this special knowledge.

Rat Fleas and Plague: Further Experiments.

Experiments have recently been conducted in Bombay for the purpose of proving that rat fleas carry plague not only from rat to rat but from rat to man. Amongst other experiments, a room was selected in which a rat that had died from plague had been found. In this room animals were placed, some being protected by fine metallic gauze, &c., around their cages in order to keep away the fleas, and others were left without these protections. The unprotected animals sickened and died and rat fleas infected with plague were found on them. The protected animals escaped. In another experiment houses were selected in which cases of plague had occurred and in which rats dead from plague had also been found. The people were removed and then in each house captive animals were placed, some being protected as before described and others not. The result was that those animals which were protected from fleas remained sound while the others were attacked with plague and died. The health department in Bombay is taking energetic measures with regard to the rats found in the streets and houses. Where plague rats are found the houses are marked and disinfected and the occupants are warned. Rat poison is also being largely used. In Calcutta, also, an active crusade is being undertaken against the rats. Rewards for live rats seem to have proved successful and large numbers are destroyed daily.

Miscellanea.

The Royal shoot at Nepaul, for which such great preparations had been made, was broken off on account of the occurrence of cholera in the Maharajah's camp. The disease spread amongst the mahouts and the special man for the Prince's elephant was the first to succumb.—The health returns for the British army in India for 1905 promise to show a still further improvement. Preliminary reports have so far only been issued but these show that malaria and "contagious diseases" have declined and that the mortality from enteric fever has been much less.—Plague of a virulent type is reported to have broken out in Seistan and it is presumed that the disease reached Seistan through the Persian Gulf. Plague now prevails on each side of Baluchistan. There is no doubt that this new centre of infection increases the danger of plague working its way into Europe.—It is not generally known that very considerable numbers of the population in the United Provinces, the Punjab, Rajputana,

and Ajmere-Merwara are only kept from famine by the relief works maintained by the Government. Nearly 300,000 people were in receipt of relief on March 3rd but some subsequent and fortunate rains which extended to the famine areas will probably soon reduce these numbers.

March 17th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

THREE fresh cases of bubonic plague have occurred at Fremantle, West Australia, and three at Geraldton, one being fatal. One case has been discovered in Perth. In Sydney five rats caught by the staff employed by the city council for the purpose were found to be plague-infected.

Typhoid Fever in Western Australia.

An unusually large number of cases of typhoid fever have occurred at the goldfields of Western Australia. The number of patients in the Government hospital at Kalgoorlie is the largest that has been recorded.

Health of Melbourne and Suburbs.

The engineer of the metropolitan board of works for sewerage and water-supply of Melbourne has compiled some statistics as to the mortality returns before and since the sewerage scheme was carried out. In every case the mortality is less by a percentage varying from 6·14 in Richmond to 0·7 in Boroondera. The former is densely populated and among the first districts to be sewered; the latter is on the outskirts with sparse population and not yet completely sewered. The infantile mortality has fallen from 15·9 per 100 births in 1891 to 9·3 in 1904.

Vital Statistics of Sydney.

The annual report of the vital statistics of Sydney for 1905 has been issued. The increase in population during the year was 11,030 and the birth-rate was the highest since 1896, being 26·27 per 1000 population. The death-rate was 11·01 per 1000, the lowest on record. The rate for children under one year was 89 per 1000 births, also the lowest on record. As regards the causes of death, increases were shown in cancer, Bright's disease, old age, premature birth, cerebral hæmorrhage, bronchitis, endocarditis, childbirth, insanity, diseases of the bladder, diabetes mellitus, and anæmia. There were decreases in pulmonary tuberculosis, enteritis and gastro-enteritis, syncope and heart disease, undefined accidents, atrophy and debility, diarrhœal diseases, enteric fever, meningitis, convulsions, and acute nephritis, while the remaining diseases showed very slight increases or decreases or were normal. The returns show that 403 deaths were due to pneumonia, of which 103 were ascribed to lobar pneumonia and 109 to broncho-pneumonia, the remaining 191 not being further described. The number of deaths during the year was practically equal to the average of the preceding five years. Tuberculous diseases in the aggregate caused 445 deaths and of these 437, or 98 per cent., were caused by pulmonary tuberculosis which claimed more victims than any other disease during the year and caused 8 per cent. of all deaths. Compared with the preceding five years, the deaths show a decrease of 17 per cent. The deaths due to cancer during the year were 435, which is 51, or 13 per cent., above the quinquennial average. Each year the deaths from cancer are steadily increasing. Of those who died 419, or 96 per cent., were over 35 years of age.

Lunacy Administration in Victoria.

Although it is 12 months since the new Inspector-General in Lunacy arrived in Victoria it was hoped to reform the lunacy administration, and although he has placed before the Government important proposals for that purpose and Parliament granted a vote of £40,000 for carrying some of them out, nothing has yet been done. The administration of the new Lunacy Act is betraying its defects and weaknesses, which were pointed out by experts when the Bill was before Parliament. It makes no provision for "border line" cases, and the conditions under which private hospitals for insane can be conducted are very unsatisfactory, and the result is that only two have so far registered under the Act. The unregistered houses still continue, and from his inspections the Inspector-General is of opinion that most of them are quite unsuitable. The lay press made a sensational story recently concerning a patient who was removed from one of these unregistered private asylums to the State asylum at Kew and was found to have been the victim of considerable violence. As a result Dr. G. J. Scantlebury of Cheltenham was charged at the local police court with assaulting the patient at his private hospital. It was stated in evidence that a struggle had taken place between the patient and Dr. Scantlebury, during which the injuries were inflicted. The case was dismissed.

Inebriates' Home, Hawkesbury River.

The Chief Secretary of New South Wales has at last paid an official visit to the buildings erected on Rabbit Island, Hawkesbury River, for the purpose of an inebriates' home under the provisions of the Act passed last session. It is considered probable that the Government will go on with the scheme.

Women as Resident Medical Officers.

Quite a heated discussion is taking place in Sydney over the question of appointing women as resident medical officers at the general hospitals. It has been the custom to appoint the resident medical officers to the Prince Alfred and the Sydney Hospitals annually from the recent graduates of the University of Sydney, according to their position in the final honours list. In January, 1904, among the graduates thus entitled to a position at the Sydney Hospital was Miss O'Reilly. She, however, was rejected by the hospital authorities on the ostensible ground that there was no accommodation at the hospital for a woman. At the Prince Alfred Hospital there is no such difficulty. Among the graduates eligible this year is Miss Aspinall, standing ninth in the list of 35 graduates, and apart from her sex she had every right to expect, as a matter of course, one of the residentships at the Prince Alfred Hospital. In June last the board of management of the Prince Alfred Hospital decided, in answer to a letter from the women medical students of the University, "to accept women residents at the hospital, other things being equal and subject to the appointments being confirmed by the conjoint board," consisting of delegates from the hospital board and the Senate of the University of Sydney, and its assent to such appointments in the past has been virtually a pure formality. Miss Aspinall was appointed by the hospital board and entered upon her duties at the beginning of the year and her name was inscribed upon the hospital roster. At a meeting on Feb. 8th, however, the conjoint board eliminated the name of Miss Aspinall on the ground "that it was not desirable to appoint a lady doctor." It is generally assumed that the representatives of the Senate and not the hospital authorities are responsible for this action of the conjoint board, which is the more severe to Miss Aspinall as she had on the strength of her appointment by the hospital board and entrance on her duties refused another appointment. The conjoint board has been most adversely criticised and scarcely a voice has been raised in its defence or a plea put forward for its action in the very warm press correspondence and comment which have followed. At the Melbourne Hospital a woman resident had been slighted purely on the ground of her sex. The medical superintendent has been absent owing to illness. In similar circumstances the senior resident medical officer has always taken his place. But it so happened that the senior man was also incapacitated by illness and the next on the list, Miss De Garis, performed the work. But the committee declined to recognise her and has appointed a practitioner from outside as acting superintendent.

Obituary.

Dr. William Sheldon, the oldest medical practitioner in the northern suburbs of Sydney, died suddenly at his residence on Jan. 19th. He was born at Stratford-on-Avon 65 years ago and graduated as M.D. at Edinburgh in 1864, taking his M.R.C.S. Eng. in the same year. He came to New South Wales in 1869 and practised at Armidale till 1884. He resumed practice in North Sydney in 1886. He was the most genial of men and deservedly popular. Two sons are in the profession.—Dr. Alexander Dewar of Woolloomooloo died on Feb. 14th at the age of 71 years. He was a graduate of Edinburgh of 1862 and was a bachelor.—Mr. James Pengelly Reed, a retired surgeon, shot himself with a revolver on Jan. 23rd, at his residence, Waverley. He had been a victim of severe neuralgia and took a large dose of morphine a few nights previously and had seemed peculiar in manner since. He was 56 years old.

March 2nd.

Obituary.

LIONEL SMITH BEALE, M.B. LOND., F.R.C.P. LOND., F.R.S.,

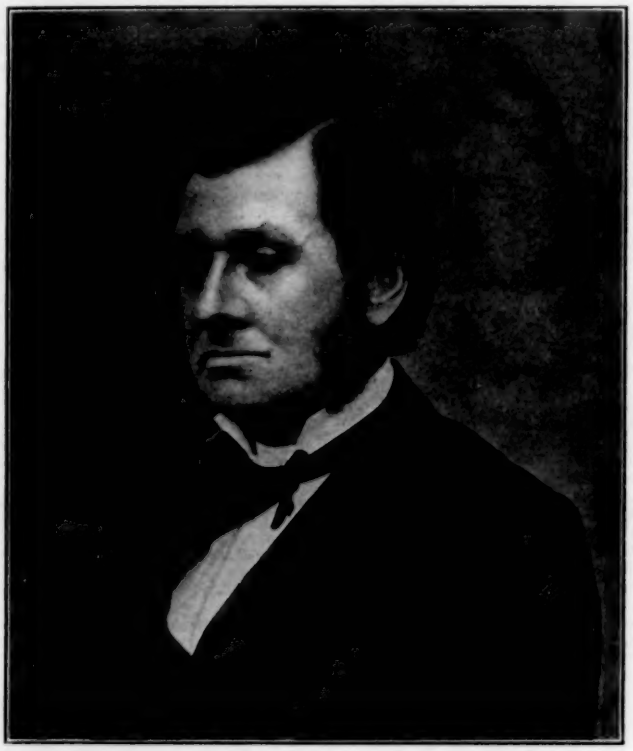
EMERITUS PROFESSOR OF MEDICINE IN KING'S COLLEGE, LONDON; CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL.

Lionel Smith Beale was born on Feb. 5th, 1828, in a house close to the church of St. Paul, Covent Garden. He was the only son of Lionel John Beale, M.R.C.S., who practised at 108, Long Acre, and was known in connexion with public health matters as they were understood at that day. His early education was conducted at a private school at Highgate and later at King's College School, whence he entered the medical department of King's College, London. The manner in which he worked as a student is well brought out by the following facts. As early as 1841 he signed an indenture as an apprentice to Joseph Rose, surgeon and apothecary, of Islington. In 1847 he matriculated at the University of London with honours in chemistry and zoology, and in the same year went to Oxford as anatomical assistant in the museum to the late Sir Henry Acland, then the curator. He held this post for two years, being succeeded by Victor Carus of Leipsic. Upon leaving Oxford he began his professional examinations. He passed the first M.B. London in 1849, and in the same year obtained the licence of the Society of Apothecaries and also a certificate stating that he had conducted at the request of the Government Board of Health (the Medical Department of the Privy Council whose work was later transferred to the Local Government Board) a house-to-house visitation at Windsor during the cholera epidemic. This was a most laborious commission and when we remember Beale's youthfulness the amount of work which he found time to get through and the amount of responsibility laid upon him and accepted by him appear marvellous. In 1850–51 he was elected resident physician to King's College Hospital and in the latter year he obtained the degree of M.B. Lond. at the age of 23. It is a singular circumstance that he never proceeded to the doctorate, though the most pronounced purist would hesitate to withhold from him the title of "Dr."

The particular direction of his interests soon showed itself. In 1852 he established a private laboratory where he taught the use of the microscope and gave courses of instruction in physiological chemistry and minute anatomy, normal and morbid. He became at once recognised as a learned and lucid teacher and in 1853 he was appointed professor of physiology in King's College, while it is an interesting fact that no less a person than Professor Huxley, later to be his opponent in many well-fought-out arguments, was one of the candidates for the post. During these early years of his professional life he received much help and good advice from his seniors, notably from Dr. R. B. Todd, Mr. Sambrooke, and Mr. Robert Cheese, three names familiar to all who have worked in King's College Hospital. He was seen from the first to be developing into a scientific physician, but the rapidity of his advance seems incredible to those who realise what medical education means at the present day. He was, of course, a tireless worker, for during the time of his first professorship he was incessantly writing papers for the Royal Society, doing original microscopical work, and teaching and lecturing in many places. Between the years 1851 and 1858 he published over 100 papers, most of them fully illustrated by his own hand, and although these papers are of varying interest and value they laid the foundation of his fame as a man of science and connected his name for the future in men's minds with the famous band of workers at King's College at that date. The names of Todd, J. E. Bowman, and Beale are revered as successive professors of physiology who had as their colleagues Richard Partridge in anatomy, J. F. Daniell and W. A. Miller in chemistry, George Johnson in materia medica, William Fergusson in surgery, Thomas Watson and George Budd in medicine, and Arthur Farre in midwifery. Having been appointed to the chair of physiology at the early age of 25 years it is not surprising to find that not one of his first colleagues survives him, and in considering the chief interest of his life of work it is equally sad to realise that death has already removed those with whom he long maintained many vigorous controversies. When he was only 29 years of age he published the first edition of his book, "How to Work with the Microscope," and the opening words of the preface indicate thus early some characteristics for which subsequent generations of students and observers have been grateful. The book was undertaken, he says, from "an earnest desire to assist in diffusing a love for microscopical inquiry, not less for the pleasure it affords to the student than from a conviction of its real utility and increasing practical value in promoting advancement"; and every page of his book carried out the double promise. It will probably be of interest to note that in the third edition published in 1865 the author not only depicted bacteria and the large bipolar nerve cells from the lumbar nerves of the green tree-frog, but he also included drawings of amœboid movements, concerning which he stated "the nature of these movements has not yet been explained, but I consider them to be 'vital' movements." Such things show well how arduous and exact Beale's researches were, and well illustrate the following brief note which we have received from Professor W. Osler. "The influence of Dr. Beale," writes Professor Osler, "as a scientific investigator and as a clinical physician was much more widespread than perhaps was recognised in London or Great Britain at large. In part at least the unfortunate terminology employed was responsible for the unpopularity of his views in some quarters. His early histological studies were of great value, while as practical physicians we must always be thankful to him for the stimulating work which he did in medical microscopy. His two well known books, 'How to Work with the Microscope' and 'The Microscope in Medicine,' were of the greatest service to two generations of medical students. Many practical points which he introduced in technique, while now superseded, formed important steps in the progress of the art. Both in Canada and the United States there are scores of men of my day who, like myself, knew Dr. Beale only through his writings, who will hear of the death of their old teacher with sincere regret and who will recall with gratitude labours which so often helped to lighten their own."

In 1860 he became professor of pathology in King's College, having previously for several years delivered systematic lectures on morbid anatomy, and during that time he devoted a large amount of time to a consideration of the Darwinian theory and its influence on current philosophical thought. This subject in some form was continually revived in his lectures both while he was professor of pathology and later when he became professor of medicine in the College, and he never wearied in denouncing all who sought to explain the mysteries of life as the outcome of physico-chemical laws. In his book on "Protoplasm or Life, Matter and Mind," he endeavoured to draw attention to the facts and arguments by which the theory of vital action is supported as against purely physical doctrines of life. In this book prominence was given to the many objections to the universal application of physical causation, the mechanical doctrines of life, and the assumed potency of matter to form all living things and to give origin to all vital action. Undoubtedly his eloquent and forcible siding with what may be termed spiritual views gained enormously in force by his familiarity with the microscope and with exact scientific methods. His training and habits were so exactly those that should have made a materialist of him that his deep religious feeling came as an arresting surprise; at the same time his published work was founded on such accurate research that his views could not be regarded as those of a mere mystic.

In 1876 he became professor of medicine and his practical skill as a therapeutist was displayed in his lectures, some of which were published in a well-known volume, "On Slight Ailments: their Nature and Treatment." The title of this book sufficiently indicates its general scope, but throughout its pages will be found not only valuable hints and "wrinkles" which the author had learnt from his old masters but also continual encouragement to assume a cheery optimism, an attitude which was characteristic of the lecturer himself. During this period of Beale's life he became a well-known and highly valued consultant physician, and many generations of students at King's College Hospital, as well as many patients both in the hospital and in private life, testified to the shrewdness of his knowledge and the kindness of his heart. In 1896 he retired from the professorship of medicine, having thus had no less than 43 years of professorial life, during 40 of which he had been physician to



LIONEL SMITH BEALE, M.B. LOND., F.R.C.P. LOND., F.R.S.,
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King's College Hospital. Immediately he was free from professorial duties he turned again to the philosophical and religious questions which had so largely occupied him previously and in quick succession he published in the columns of THE LANCET a series of papers on Vitality and Vital Action. In some respects it is difficult to follow the line of argument in these papers, though they are marked by the vigour and sincerity which were characteristic of all that he wrote. Huxley and Darwin had passed away and yet he still sought new antagonists amongst those who might have adopted their views in a narrow or cast-iron manner. He still felt that there were those who "insist that life is a form of physical and chemical change" and that they must be convinced of their errors and induced to recant. He challenged them to account reasonably for the facts of the simplest vital actions in the absence of some directing arranging selective agency unknown to science. This challenge was addressed to the Fellows of the Royal Society, to which body he had been elected as far back as 1865 in recognition of his early microscopic work, and at a later date he endeavoured to interest teachers, science students, and medical missionaries in his views upon vitality and on life and death. Doubtless, it was a disappointment to him to find that the challenge was not taken up by those whom he desired to reach and that his appeal did not meet with adequate response, but even on re-reading the series of papers on Vitality it is felt that in his attacks on "atheism," "materialism," "agnosticism," "monism," and "free thought," his own position was scarcely defined with sufficient clearness. But in one of the papers on Vitality he stated the following "conclusions in accordance with minute investigations and natural knowledge" which may be taken to sum up his position: "1. That ours is the Only Life-world at this time known. 2. That all living matter is, and has ever been, absolutely distinct from all non-living matter. 3. That the differences between man and all other organisms in nature are absolute."

Undoubtedly every form of scientific work bearing particularly upon the nature of vitality was the pursuit of Beale's life, but it must be pointed out that he was a physician as well as a philosopher. In addition to his work on "Slight Ailments" he wrote learnedly upon both the liver and the kidneys and was Lumleian lecturer at the Royal College of Physicians of London in 1875. The same College awarded him in 1871 the biennial Baly gold medal for his physiological work in relation to medicine. He was Croonian lecturer at the Royal Society, was a past president of the Royal Microscopical Society, and a Fellow of more foreign medical and scientific societies than need be enumerated. He also felt the strongest interest in all questions of nursing and took an active part in the management of St. John's House, one of the early training schools in nursing and the one which formerly and for a long time undertook the nursing in King's College Hospital.

In 1859 he married Frances, only daughter of the Rev. Peyton Blakiston, M.D., F.R.S., of St. Leonards, formerly of Birmingham, and in the same year he took the lease of 61, Grosvenor-street, in which house he lived for no less than 45 years. In a small greenhouse and on a flat roof at the back of this house he for many seasons grew orchids, ferns, and bulbs with great skill and success and the fondness for gardening thus evidenced was later indulged upon a much larger scale. In 1882 he found it necessary to live in the country on account of his wife's health and he took a small cottage in a pine wood at Weybridge, travelling to and from London daily. His wild garden there became well known amongst horticulturists, for he grew successfully a number of palms, Japanese plants, and rare or exotic bulbs. One of his friends at Weybridge was the late Mr. G. T. Wilson, whose wild garden at Wisley has lately come into the possession of the Royal Horticultural Society, and enthusiasts in gardening were equally familiar with both names.

In private life Dr. Beale had few really intimate personal friends beyond those whose names have already been mentioned in this memoir, but amongst them were Edward Thring, the famous head-master of Uppingham School, Sir Henry Acland, Victor Carus, and Mr. H. T. Wells, the Royal Academician, lately deceased, who painted in 1876 an admirable portrait of his friend. This portrait was exhibited in the Royal Academy and later at the Paris Exhibition amongst the masterpieces of British art. His friendship with Edward Thring was a deep and lasting one and was made deeper by the fact that his eldest boy—then aged eight years—died at Uppingham while visiting the Thrings with his mother. Much of Dr. Beale's writings upon religion, science, and morality was influenced by Thring's exceedingly strong personality, as may be gathered by a perusal of "The Life and Letters of Edward Thring," as compiled by G. R. Parkin, at that time principal of Upper Canada College.

In 1892 Mrs. Beale died at Weybridge. This and the constant wear and tear of railway travelling began to affect him and in 1900 he had a slight attack of cerebral hæmorrhage or thrombosis. Up to this time he had never been laid up for more than a day or two at a time in his life, but his general health never became very strong after this seizure, and the presence of certain symptoms soon rendered it necessary for him to live where he could be properly cared for. In the year 1904 he came back to London and lived with his son, Mr. Peyton T. B. Beale, in Bentinck-street and his health markedly improved. Inevitable senile changes, however, became more and more evident and on March 19th last he had another cerebral attack and on the 25th there were unmistakeable symptoms of pontine hæmorrhage. He became unconscious on the next day and passed away peacefully on the 28th. He was buried in Weybridge Cemetery in the simplest manner, as was his wish, and in the presence only of his near relatives and a few of his oldest and best London and Weybridge friends.

Our portrait, the reproduction of a photograph taken by Mr. Peyton Beale, represents Dr. Beale at the age of about 55 years.

JOHN HAMILTON BUCHANAN, M.D. ST. AND., J.P.

Dr. J. H. Buchanan, who died at his residence, Sowerby, Thirsk, on March 22nd, in his seventy-fourth year, studied medicine at Anderson's College, Glasgow, and graduated M.D. of the University of St. Andrews in 1859. A year later he commenced to practise at Haltwhistle, Northumberland. Thence, owing to ill-health, he went south to Staines and after a stay of two years returned to the north to Thirsk, where he was in practice for 33 years. Dr. Buchanan was the first medical officer of health to the Thirsk union, an appointment which he held at the date of his death. He was a Fellow of the Society of Medical Officers of Health and an ex-president of the Yorkshire branch of that society. He was a public vaccinator and a vice-president of the Association of Public Vaccinators of England and Wales. He was the first country member to be elected president of the York Medical Society. He took an active interest in all scientific pursuits, was a regular attendant at the meetings of the British Association for the Advancement of Science, and visited Canada and America with that body. He was a prominent Freemason and was appointed on the commission of the peace for the North Riding of Yorkshire in 1893.

JOHN MICHAEL HARDING MARTIN, M.D. BRUX., M.D. VICT., M.D. LIVERP., F.R.C.S. ENG., L.R.C.P. LOND., L.S.A., J.P.

Dr. J. M. H. Martin died with tragic suddenness at his residence, Arnheim, Blackburn, on March 20th. Dr. Martin represented the third generation of a family of medical men, his father and grandfather having both been surgeons, and he was born at Liverpool on May 6th, 1847. He was educated at the University of Edinburgh and University College, Liverpool, and was medallist in medicine, surgery, and pathology. He took the qualification of M.R.C.S. Eng. in 1874 and was admitted a Fellow of the College in 1889. He received the diploma of L.R.C.P. Lond. in 1881. He graduated as M.D. Brussels in 1877, as M.D. Vict. in 1892, and as M.D. Liverp. in 1904. Dr. Martin was an ex-President of the Lancashire and Cheshire branch of the British Medical Association and of numerous medical societies, honorary consulting surgeon to the Blackburn and East Lancashire Infirmary, a justice of the peace for the county borough of Blackburn, and a lecturer for, and honorary member of, the St. John Ambulance Association. He was also author of a treatise entitled "Ambulance Lectures," which reached its fourth edition, and of various contributions to scientific journals. He was major commanding the North-East Lancashire Bearer Company, R.A.M.C., and surgeon-major in the

Army Medical Reserve. He went to Blackburn over 30 years ago as assistant to the late Dr. Irving, whom he subsequently joined as a partner, and on Dr. Irving's death carried on the practice which under his care became one of the largest in the district. Dr. Martin fulfilled in himself the traditions of his inheritance, and during the later years of his life never appeared happier than when stimulating his younger colleagues with that zeal and enthusiasm for their work with which he was imbued. Those who were intimately acquainted with him recognised for some time symptoms of failing health, but though he was known to be suffering from an attack of erysipelas his death from cerebral hæmorrhage came as a shock to all. The greatest sympathy is extended to his widow and family, both by his numerous friends and also by his professional brethren who recognise that by his death they have lost not merely a worthy colleague but a competent and trustworthy leader.

THOMAS EVANS, M.D. EDIN., L.R.C.S. EDIN.

Dr. Thomas Evans died recently at his residence, Park House, Newquay, Cardiganshire, in his sixty-fourth year. He was born at Newquay and received his medical education at the University of Edinburgh, where he graduated as MD. in 1865, subsequently obtaining the diploma of L.R.C.S. Edin. in 1870. After holding the appointment of s nior house surgeon at the Royal Portsmouth Hospital, Dr. Evans commenced practice at Newquay, where he filled several public appointments, being medical officer of health of the Aberayron rural district and also of the Newquay urban district. He was medical officer and public vaccinator of the Llandisilio district of the Aberayron union and Admiralty surgeon and agent. Dr. Evans was highly respected at Newquay; he was chairman of the old school board and a manager of the Newquay group of schools. He leaves a widow and five children, with whom much sympathy is felt. The funeral, which took place on March 30th, was largely attended.

JESSIE MACLAREN MACGREGOR, M.D. EDIN., L.R.C.P. & S. EDIN., L.F.P.S. GLASG.

NEWS has just been received in Edinburgh of the death of Dr. Jessie MacLaren MacGregor in Denver, U.S.A., after a short illness. Dr. MacGregor was well known in Edinburgh, where she received her medical education and where she practised until about a year ago when she went to Denver, attracted there by family ties. She took the Scottish triple qualification in 1892. As soon as the University opened its degrees to women she at once set herself to prepare for the examinations and graduated as M.B., C.M. in 1896. Three years later, in 1899, she took the M.D. degree and was the first lady graduate of Edinburgh to be awarded a gold medal for her thesis. For a short time she held the post of registrar to the Royal Hospital for Sick Children and at the time when she left Edinburgh she was a member of the staff of the Hospital for Women and Children. She published a book on "The Pathology of the Endometrium" which has been well received and which contains the record of extensive observations. She was an able and popular practitioner and was taking quite a foremost place amongst those of her sex in Edinburgh, so that her prospects were bright and her friends there naturally regretted her determination to cross the Atlantic. In Denver she soon obtained work in the University and there was every prospect that she would before long have got her share of clinical work. Her unlooked-for death has cast a gloom that is all the deeper in view of the regret which was aroused by her decision to abandon her position in Edinburgh.

GLOUCESTERSHIRE INFIRMARY AND EYE INSTITUTION.—The annual meeting of the subscribers to this institution was held on March 29th. The medical report was satisfactory but the financial statement showed that an unfavourable balance of £596 remained. The chairman (Colonel Hayward) referred to the fact that during the year £188 were spent in spectacles and appealed to the committee for strict inquiry into the circumstances of patients who obtained these articles from the infirmary. £11,144 had been spent on building and improvements; of this sum £7800 had been received, leaving £3310 still to be raised.

Medical News.

UNIVERSITY OF LIVERPOOL: DIPLOMA IN TROPICAL MEDICINE.—The examinations for the Diploma in Tropical Medicine were held on March 26th, 27th, and 28th. The following candidates satisfied the examiners and have been recommended for the diploma:—

F. A. Arnold, M.B., D.P.H.; J. B. Bate, L.S.A.; J. Dundas, M.B.; Major N. Faichnie, M.B., R.A.M.C.; D. F. Mackenzie, M.B.; Major A. Pearse, D.P.H., R.A.M.C.; and Captain R. D. Willcocks, M.B., I.M.S.

TRINITY COLLEGE, DUBLIN.—At examinations held in Hilary term the following candidates were successful:—

FINAL EXAMINATION IN MEDICINE.

Part I.—Thomas O. Graham, Francis W. H. Bigley, Cecil T. Conyngham, Henry D. Woodroffe, Ernest C. Crawford, Charles G. Sherlock, Arthur R. Knapp, Albert T. J. M'Creery, Francis O'B. Kennedy, Wilfred L. Hogan, Henry B. Leech, John A. Hartley, Joseph C. Ridgway, Wallace D. Mitchell, and George H. Stack.

Part II., Medicine.—Samuel G. S. Haughton, Gustav W. Thompson, John D. Sands, Robert A. Askins, John C. P. Beatty, Basil G. Brooke, Thomas R. Peyton, Francis Casement, Francis Coppinger, George Dougan, George G. Vickery, Ralph S. Oldham, and Edward Gibbon.

Part II., Surgery.—John D. Sands, Basil G. Brooke, Robert B. Jackson, Ralph S. Oldham, Samuel G. S. Haughton, Alfred G. Alexander, Hercules J. Knox, and Gustav W. Thompson.

INTERMEDIATE MEDICAL EXAMINATION.

Part II.—William Pearson, Johannes C. Pretorius, Robert E. Wright, William E. Hopkins, John A. W. Ponton, William S. Thacker, David J. Miller, Dixie P. Clement, James F. Clarke, Wilfred J. Dunn, Thomas P. Dowley, Alfred H. Smith, James C. C. Hogan, Gordon A. Jackson, John H. Morton, Thomas P. S. Eves, Norman P. Jewell, Allman T. Powell, Julian B. Jones, James R. Yourell, Ernest C. Lambkin, Oliver Gogarty, Edmund H. Sheehan, Alexander S. M. Winder, William Knapp, and Frank R. Seymour.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. Arriëns Kappers has been recognised as *privat-docent* of Histology.—*Berlin:* Dr. Adolf Passow has been appointed Director of the University Aural Clinic in succession to Dr. August Lucae who, having reached the age of 70 years, is retiring.—*Breslau:* Dr. Triepel of Greifswald has been appointed Honorary Extraordinary Professor of Anatomy.—*Copenhagen:* Miss Eli Müller, M.D., has been recognised as *privat docent* of Midwifery.—*Freiburg:* Dr. Ludwig Aschoff has been appointed to succeed the late Dr. Ziegler as Professor of Pathological Anatomy.—*Göttingen:* Dr. Wendeburg and Dr. Heiderich have been recognised as *privat-docenten* of Neurology and Anatomy.—*Halle:* Dr. Alexander Stieda has been recognised as *privat-docent* of Internal Medicine.—*Kiel:* Dr. Bernhold Ruge, *privat-docent* of the History and Geography of Medical Sciences, has been granted the title of Professor. Dr. Victor Klingmüller of Breslau has been appointed Extraordinary Professor of Dermatology in place of Professor von Düring who is going to Dresden.—*Kharkoff:* Dr. Kiyanitsyn of Kieff has been appointed Extraordinary Professor of Hygiene.—*Königsberg:* Dr. Klieneberger has been recognised as *privat-docent* of Internal Medicine and Dr. Joachim as *privat-docent* of Medicine. Dr. Rudolph Kafemann, *privat-docent* of Laryngology, has been promoted to an honorary professorship.—*Leipsic:* Dr. Heinrich Klien has been recognised as *privat-docent* of Neurology.—*Munich:* Dr. Oberndorfer has been recognised as *privat-docent* of Pathological Anatomy.—*Padua:* Dr. Giuseppe Albertotti of Modena has been appointed to the chair of Ophthalmology.—*Pavia:* Dr. Giuseppe Muscatello has been appointed Extraordinary Professor of External Pathology.—*Rome:* Dr. Ercole Tranquilli has been recognised as *privat-docent* of Internal Pathology.—*Rostock:* Dr. Joseph Meinertz has been recognised as *privat-docent* of Internal Medicine.—*Strasburg:* Dr. Albrecht Bethe, assistant in the Physiological Institute, Dr. Edwin Faust, assistant in the Pharmacological Institute, Dr. Julius Klein, *privat-docent* of Gynæcology, and Dr. Karl Spiro, assistant in the Institute of Physiological Chemistry, have been promoted to Professorships.

SHEFFIELD AND DISTRICT EDINBURGH UNIVERSITY CLUB.—The first annual dinner of the above club took place on March 24th at the Royal Victoria Station Hotel, Sheffield. The club has started with a membership of 57 and a company of 90 was present, with Dr. J. H. Keeling, the *doyen* of the medical profession in Sheffield, in the chair. Professor T. Annandale was the guest of the evening and amongst other guests present were Professor W. M. Hicks,

Professor W. T. Cocking, Professor S. Snell, Professor Arthur Hall, Professor Pye-Smith, Professor Burgess, Dr. J. W. Martin, Dr. W. S. Porter, and Dr. Sinclair White. The toast of the evening was given from the chair, Dr. Keeling recounting interesting reminiscences of his student days at Edinburgh in the "fifties," when Edinburgh was the bright shining star in the firmament of British medicine. He dwelt specially on the personalities of Syme, Goodsir, Simpson, Christison, and Lister. The toast was coupled with the name of Professor Annandale and was received with great enthusiasm, the company singing "For he's a jolly good fellow." Professor Annandale thanked them for the handsome way in which they had received the toast and then proceeded to tell stories in the old, old way so dear to Edinburgh students. He congratulated them on their president—a Crimean veteran—and wished the club every prosperity. "The University of Sheffield" was proposed by Dr. R. Gordon and replied to by Professor Hicks. Other toasts followed and a pleasant evening ended with the singing of "Auld Lang Syne."

THE LEAGUE OF MERCY.—Princess Alexander of Teck presided at an At Home given by the Lord Mayor and Lady Mayoress at the London Mansion House on March 30th to the presidents and lady presidents of the different districts of the League of Mercy. Among those present were the Duchess of Somerset, Lord and Lady Kilmorey, Sir W. J. Collins, M.P., and Sir H. Burdett. At a meeting held in the Egyptian Hall the Duchess of Somerset said that in these days of party and passion, when class was set against class, instead of bearing one another's burdens, it was a happy thing to turn from the field of politics and strife to the continued efforts being made on behalf of the suffering poor. The League of Mercy had come as a great work where the poor and rich might combine to help in the battle of life to try to make the burdens lighter for their fellow-men and to alleviate the suffering which was found everywhere. At the conclusion of the meeting in the Egyptian Hall tea was served and the band of the Grenadier Guards performed a selection of music.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the list of prizes awarded for the winter session 1905-06:—Descriptive Anatomy: Junior: W. A. Swan, first prize (£2) and medal; and A. A. Pelissier, second prize (£1) and certificate. Senior: G. C. Sneyd, first prize (£2) and medal; and I. Scher, second prize (£1) and certificate. Practical Anatomy: First year: H. D. Gasteen, first prize (£2) and medal; and H. G. P. Armitage, second prize (£1) and certificate. Second year: H. J. Hedley, first prize (£2) and medal; and Miss I. M. Clarke, second prize (£1) and certificate. Practice of Medicine: H. W. White, first prize (£2) and medal; and D. Adams, second prize (£1) and certificate. Surgery: H. W. White, first prize (£2) and medal; and T. Sheehy, second prize (£1) and certificate. Midwifery: H. C. Carden, first prize (£2) and medal; and W. E. M. Hitchins and T. Sheehy (equal), second prize (£1) and certificate. Physiology: H. J. Hedley, first prize (£2) and medal; and J. Menton, second prize (£1) and certificate. Chemistry: J. J. Lyons, first prize (£2) and medal; and R. White, second prize (£1) and certificate. Pathology: H. W. Kay, first prize (£2) and medal; and G. S. Levis, second prize (£1) and certificate. Physics: R. White, first prize (£2) and medal; and R. H. Weir, second prize (£1) and certificate.

LITERARY INTELLIGENCE.—The following books are to be issued by Messrs. J. and A. Churchill during April: "Heath's Minor Surgery and Bandaging," thirteenth edition, by Bilton Pollard, F.R.C.S. Eng., surgeon to University College Hospital; "Rational Organotherapy, with Reference to Urosemiology," by Professor Dr. A. von Poehl, Professor Prince J. von Tarchanoff, Dr. Alf. von Poehl, and Dr. P. Wachs, translated from the Russian; "A Manual of Pathology, General and Special," by Professor R. T. Hewlett, M.D. Lond., professor of general pathology and bacteriology in King's College, London, examiner in pathology, University of Aberdeen, illustrated; "Carbohydrate Metabolism and Diabetes," by F. W. Pavy, M.D. Lond., F.R.S., consulting physician to Guy's Hospital, honorary physician to King Edward VII. Hospital, with eight plates; "Preservatives in Food and Food Examination," by J. C. Thresh, M.D., D.Sc. Lond., lecturer on public health, London Hospital Medical College, examiner in hygiene, University of London, medical officer of health, Essex County Council, illustrated; "The Pharmacopœia of the Evelina Hospital for Sick Children"; third edition; "Medical and Pharmaceutical Latin: How to Read and Write it; a Guide to the Grammatical Construction of Physicians' Prescriptions," by R. R. Bennett, Ph.C., M.P.S., teacher of pharmacy at the University College Hospital, London; "Report to the Government of British Honduras upon the Outbreak of Yellow Fever in that Colony in 1905, together with an Account of the Distribution of the Stegomyia Fasciata in Belize, and the Measures Necessary to Stamp Out or Prevent the Recurrence of Yellow Fever," by Rubert Boyce, M.B., F.R.S., 26 figures.

THE NOTIFICATION OF PULMONARY TUBERCULOSIS.—At a recent meeting of the Leicester town council the chairman of the sanitary committee proposed that the council should request the Local Government Board to give local authorities the power of including pulmonary tuberculosis amongst the list of infectious diseases to which the Infectious Diseases Notification Act, 1889, applies; also that the Local Government Board should be requested to give local authorities the option of excluding erysipelas from the list of compulsorily notifiable diseases. After considerable discussion, however, it was resolved that the question should be referred to the committee in order that it might be considered by a conference of the medical men of the town.

MANCHESTER ROYAL INFIRMARY.—It was announced at the recent meeting of the infirmary board that good progress had been made with the building of the new infirmary in Oxford-road. The walls up to the first storey are almost completed and the plans for the superstructure have been approved by the corporation. A legacy of £1500 has been received from the estate of the late Miss Beswick of Mossley. The establishment of an ambulance depôt at the new infirmary has been discussed with the watch committee of the corporation and it is considered that the present system of ambulance stations, with a proposed extension of the system, will meet the requirements of the case and that the establishment of a depôt at the new infirmary is undesirable.

UNIVERSITY OF CAMBRIDGE.—Through the generosity of an anonymous friend the Committee for the Study of Special Diseases is enabled to offer a research scholarship of the annual value of £100. The object of this scholarship is to advance our knowledge of the diagnosis or treatment of rheumatoid arthritis and allied diseases. The scholarship is offered to a recently qualified man and preference will be given to one who has held a resident post at some hospital. The appointment will be made for six months in the first instance but this period may be prolonged. The holder of the scholarship will be required to work under the direction of the Huddersfield lecturer in special pathology at Cambridge. The results obtained may be used for a thesis if desired. Letters of application should contain a full account of the medical curriculum of the applicant but testimonials are not required. The electors to the scholarship are the treasurers of the committee.

TEMPERANCE AND THE NATIONAL HEALTH.—The National Health Society (of which Sir Frederick Treves is chairman of committee) held on March 28th the second of its special lectures at 20, Hanover-square, London, W. Sir Thomas Barlow, presided. Professor G. Sims Woodhead, the lecturer, said that to insure good health one required to have for the body good nutriment for the building up of its tissue, body and brain, so as to avoid any chance of a breakdown. Alcohol was not a good nutriment and affected deleteriously different portions of the body. As little as from one to one and a quarter ounces of spirit per diem did harm to a vast number of mankind. Workmen turned out inferior work through excess in taking alcohol. Mothers should on no account take it: the children born of those with drinking habits were handicapped through their lives through the loss of vitality, they were never so healthy as the children of total abstainers and their mortality was far greater. Total abstainers, as shown by the actuarial statistics of life insurance companies, lived longer and were less liable to disease than even moderate drinkers. Hard drinkers could not get insured by the companies; that spoke for itself. Tuberculous patients were at one time ordered by physicians to take alcohol but it was now proved that

alcohol accelerated the spread of tuberculosis; it also weakened the body's defences against all diseases and in most cases increased the latter.

THE BRITISH MEDICAL BENEVOLENT FUND.—A bank-note for £10 from "Anon." has been received by the honorary treasurer of the British Medical Benevolent Fund.

BRISTOL ROYAL INFIRMARY.—The sum of £45,013 has been received towards the "£50,000 Fund" required for bringing the Bristol Royal Infirmary thoroughly up to modern requirements.

DONATIONS AND BEQUESTS.—A donation of £1000 has been received by the treasurer of the Leeds General Infirmary from Mrs. Cooke of Leeds to endow a bed in memory of her husband, the late Mr. A. Cooke.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—The thirty-first annual meeting of the supporters of this hospital was recently held in the town hall, Manchester, under the presidency of the Lord Mayor (Mr. J. H. Thewlis). The report tells of increased and increasing work. The 50 beds at the Bowdon in-patient department had been fully occupied. At the out-patient department at Hardman-street, where not only consumptive patients are treated but also those suffering from other diseases of the respiratory organs, throat, nose, and upper air passages, 11,210 cases were attended to, while the Crossley Sanatorium at Delamere has begun very auspiciously its beneficent work. Mr. Crossley not only built the sanatorium but supplied the complete furnishing and equipment, including the plant for electric lighting, heating, steam laundry, water-supply, and scheme for the disposal of sewage, and it is safe to say that it stands high in the list of institutions for the treatment of consumption. The grounds are 66 acres in extent and, with the exception of meal times, the patients are out the whole of the day, either lying on their couches in the shelters or taking exercise as prescribed by the medical officers. Of course there is the usual appeal for funds but Mr. Crossley, who was present, thought that they were fortunate in having only a deficiency of £1800 on the two accounts in the first year of so large an undertaking. He wished medical men would take more interest in the hospital and send more paying patients. "This idea had been obtained from Germany." The lowest rate of payment for these patients was two guineas a week, while the ordinary cases paid on an average 3s. a week. About a dozen of the patients were present, all looking hale and well. They will have to continue to live as nearly as possible in the conditions that led to their improved health, which is, of course, the hardest problem of all.

CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board held a meeting on March 29th at 6, Suffolk-street, London, Dr. F. H. Champneys being in the chair.—A letter was read from Dr. E. Walford (medical officer of health of Cardiff) forwarding a copy of a resolution passed by the local supervising authority at Cardiff asking the Board to make Cardiff one of the provincial centres for the Board's examinations. Some of the candidates did not understand the English language and it was urged that this difficulty would be obviated by having a provincial centre at Cardiff. After a discussion the matter was referred to the standing committee. The report of the meeting of examiners held on March 20th to consider the question of an official handbook for midwives was received. The report states that it was moved and seconded "that the examiners recommend to the Board the publication of an official handbook for midwives." It was decided that the consideration of this recommendation should be postponed for six months. The clerk of the London County Council having reported that two midwives were guilty of persistent disobedience to Rule E, 19 (b), and had announced their intention of not complying with the rule, the board directed that the midwives in question should be called on to furnish an explanation of the fact alleged against them by the London County Council. At a meeting of the Board on Jan. 30th the name of Mary Ann George was removed from the roll and instructions were given that the papers in the case were to be sent to the Public Prosecutor for his consideration of the facts concerning the signing of a certificate of good character of Mary Ann George by a clergyman. The Board has received a letter from the director of public prosecutions dated March 5th, 1906, in which he says that he has read and considered the papers forwarded to him. Although the conduct of the clergyman in question is in his opinion morally inexcusable and the explanation altogether unsatisfactory he does not think in view of that explanation that the clergyman would be convicted under Section 12 of 2 Ed. 7, c. 17, of wilfully making or causing to be made a falsification in a matter relating to the roll of midwives. The director of public prosecutions submits that if any indictable offence under that Act should be brought to the notice of the Central Midwives Board it would be within its power to institute a prosecution and that these would not necessarily be cases calling for the intervention of the director of public prosecutions under 42 and 43 Vict., cap. 22, and the regulations made under that Act.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Army Medical Reserve.

IN THE LANCET of March 31st an outline was given of the new Army Medical Reserve scheme. The subject was discussed in the House of Commons on the Army Estimates when Mr. HALDANE gave some additional particulars. He said that it was perfectly plain that with their increasing burdens no nation—certainly not this nation—could bear the charges of keeping everything in the time of peace upon the war level. Therefore the War Office has set itself to act upon the principle of asking itself what steps it could take to prepare in time of peace things in skeleton so that they might be clothed with flesh and blood when war broke out. The outbreak of war was the only test that could be applied. The very efficient director-general of the Army Medical Service had had the matter under consideration lately and a start with a new scheme had been made. It was recognised that in order to make the civilian surgeon—for civilian surgeon he would be for the main during peace time—efficient in time of war he must go through a special training. Even the distinguished men who went to South Africa at the time of the war found themselves very much out of it when they came to do the special work which the army surgeon had to do. He (Mr. HALDANE) did not himself realise the reason for that clearly until he read one of the latest treatises upon military hygiene. There was in the vote for the Army Medical Establishment a sum of £4500 for a reserve of civilian surgeons and what the War Office proposed to do was to take 450 young medical men who were willing to enter the new Army Medical Reserve and to train them. They would be subject to the rules that govern the employment of reserve officers generally and would have the rank of lieutenant on joining with promotion to captain after three and a half years' satisfactory service. A practitioner joining the reserve would have to undergo a course of special training at the depôt of the Royal Army Medical Corps at Aldershot. During this time he would receive the pay and allowances of an officer of his rank in the Royal Army Medical Corps. If this probationary period of service was satisfactory he would be confirmed in his rank and receive in his second and third years a retaining fee of £20 a year. He must, of course, do something for that money and he would be called upon to undergo another period of instruction preparatory to passing the examination which was necessary for promotion to the rank of captain. During this second course, the duration of which would be one month, he would be paid as before. After promotion to the rank of captain his retaining fee would be £25 a year. It was proposed to limit the period in the reserve to seven years, by which time the surgeon would have learned enough with his civilian knowledge to make him able to take the field with the requisite qualifications. The reserve would be primarily composed of civilian surgeons, but it was not intended to exclude officers of the auxiliary forces and medical officers of the Volunteers, provided they were seconded in their Volunteer corps. These reserve officers could resign their commissions upon the usual conditions. It was also hoped to get a certain number of reserve attendants in the same way.

Charge against Medical Practitioners.

In the course of the debate on the second reading of the Prevention of Corruption Bill in the House of Commons on April 3rd Mr. VIVIAN alleged that a practice existed among a certain class of medical men of accepting commissions for placing orders for coffins for the patients whom they were attending. The statement was received with cries of dissent, but Mr. VIVIAN reiterated the allegation and asked the House to picture the situation created when the medical attendant knew that if the patient died the insurance money would be there to pay for the coffin and the commission, while if the patient lived there would be no money to pay even the medical fees. Unfortunately, no medical Member was in the House to take up the matter, at any rate no reply was attempted.

HOUSE OF COMMONS.

THURSDAY, MARCH 29TH.

Deaths from Anthrax.

Mr. JOWETT asked the Home Secretary whether his attention had been directed to the report of an inquest held at Bradford on March 19th to inquire into the deaths of two operative wool-workers who died from general anthrax, where the jury declared that not sufficient care had been taken; and whether he was aware that several deaths from the same cause had taken place within a recent period at Messrs. Campbell and Harrisons, one of the firms concerned; whether, having regard to the seriousness of the situation, he would furnish the House with a list of the cases of anthrax which had been contracted at the firm referred to; the source from which the wool was derived upon which these operatives had been employed; and the price paid by the importers for the same.—Mr. GLADSTONE answered: Yes, I have had before me reports on the two cases mentioned in the question. In regard to one of these the jury expressed the opinion that sufficient care had not been taken to extract the dust from the wool, but in the other case they considered that every possible precaution seemed to have been taken for the protection of the workpeople. It is the fact that during the last two years a number of cases of anthrax have occurred at this firm's works, 16 in all, of which eight proved fatal; and I shall be happy to furnish the honourable Member with a list of them if he desires to have it. In the majority of the cases the wool used was of Persian origin, but as the firm does not purchase wool but combs it on commission for other firms it has not been possible to ascertain the price paid. I may add, that in compliance with the new regulations a number of structural improvements have been carried out by the firm as well as several suggestions on points outside the regulations which have been made by the inspector, and a medical man has been engaged at the company's expense to visit and treat any person in its employ who reports illness from any cause. Special attention will continue to be given to these works, especially in connexion with the process of sorting.

Certificate for Exemption from Vaccination.

Mr. ARNOLD HERBERT asked the Home Secretary whether he was aware that upon an application by a parent under the Vaccination Act, 1898, for a certificate of exemption from vaccination for his child, it was the practice of clerks to justices to require production of a full copy of the certificate of birth of the child, for which under the Registration Act, 1874, a fee of 2*s.* 6*d.* had to be paid, and not to accept the certificate of registration prescribed by Section 30 of the Registration Act, 1874, for which a sum not exceeding 5*d.* was to be paid; and whether, having regard to the fact that the latter certificate equally proved the essential fact of the date of birth, it was within his powers to give instructions that the certificate under Section 30 of the Act shall be accepted as sufficient evidence.—Mr. GLADSTONE replied: I have no power to prescribe the evidence which is being received by a court of justice, but it appears to have been held by the High Court that justices are entitled to require a certificate of birth, unless some reason is shown why it cannot be given.

Lord Chancellor of Ireland and Medical Officer's Fee.

Mr. LAW asked the Chief Secretary for Ireland whether he could say why the Lord Chancellor had refused to refund to the guardians of the Dunfanaghy union the fee paid by them to the medical officer who certified on the occasion of the committal of Mrs. Grace Ronayne to Letterkenny Asylum on Nov. 30th, 1904, although he had promised to pay for her maintenance in the asylum.—Mr. BRYCE replied: I am informed by the Registrar in Lunacy in Ireland that, as the fee of the medical officer in this case is not recoverable by law, the Lord Chancellor has no power to authorise payment.

MONDAY, APRIL 2ND.

The Control of Vaccination Officers.

Mr. BARKER asked the President of the Local Government Board whether he would be prepared to consider the advisability of transferring the control of the vaccination officers from the Poor-law guardians to the local borough council.—Mr. BURNS answered: The proposal in the question would seem to involve a transfer of vaccination duties generally from boards of guardians to sanitary authorities. The suggestion that such a transfer should be made was considered by the Royal Commission on Vaccination, which reported that it raised very great difficulties, chiefly owing to the number of the sanitary authorities as compared with that of the boards of guardians and the difference in the areas for which they respectively act. Upon the whole the Commissioners came to the conclusion that it would be impracticable to vest the sanitary and vaccination duties in all cases in a single local authority without a complete recasting of our present areas of local administration. I am afraid I could not give any promise at present to give effect to the proposal of my honourable friend.

Compulsory Vaccination of Teachers.

Mr. RAMSAY MACDONALD asked the President of the Board of Education whether he could now inform the House what decision he had arrived at regarding the compulsory vaccination of teachers.—Mr. BIRRELL answered: I am considering how the object desired by the honourable Member can be attained, but it involves certain financial questions under the Teachers' Superannuation Act, 1898, which I have not yet had time fully to investigate. I am not yet therefore in a position to make any announcement on the subject.

Revaccination of a Garrison.

Mr. J. W. BENN asked the Secretary of State for War whether a direction had been issued to the effect that the officers and men of the garrison at Devonport were to be revaccinated; if so, whether this order applied indiscriminately to all officers and men, including those who had already been revaccinated; and whether officers and men who had a conscientious objection to vaccination would be exempted from the operation of this order.—Mr. HALDANE replied: My honourable friend appears to have been somewhat misinformed. No special orders have been issued. The usual annual vaccination inspection is now being carried out in accordance with Paragraph 566 of the Medical Services Regulations.

Cancer Specimens by Post.

Sir WALTER FOSTER asked the Postmaster-General why dead specimens of cancer, preserved in a non-deleterious fluid, had been declared to be forbidden admittance to the post, and why certain specimens, addressed to the Imperial Cancer Research Fund, were ordered to be destroyed immediately on their arrival in this country from abroad; whether the absolutely innocuous nature of these specimens, as compared with living cultures of bacteria, unpreserved diseased tissues, or pathological products generally, was stated in the inquiries addressed by the General Post Office in 1905 to the French and German postal administrations, and what were the terms of the replies received; and whether he would take steps at the Postal Congress to secure the facilities of the post, which were essential to international collaboration, again being made available for investigators at home and abroad engaged in the study of cancer.—Mr. SYDNEY BUXTON answered: With a view to the protection of the public and of Post Office servants the regulations of the foreign and colonial post forbid the transmission of dangerous articles and require their destruction if found in the post. Pathological products generally have been regarded as coming under this prohibition, since many of them are undoubtedly of a highly dangerous character, and it is difficult for postal servants to distinguish between those which are harmful and those which are innocuous. The cancer specimens addressed to the Cancer Research Fund are, I am informed on the highest authority, harmless, and as I am assured that the use of the post is of great importance for the successful prosecution of the researches of the fund I hope to be able to make a special exception in its favour. I think it desirable, however, that the matter should be discussed with the delegates of the countries principally concerned at the approaching Postal Congress and I have instructed the British delegates accordingly. In the meantime packets addressed to the Cancer Research Fund will be delivered.

BOOKS, ETC., RECEIVED.

JACK, T. C. AND E. C., 34, Henrietta-street, London, W.C., and Edinburgh.

The Edinburgh Stereoscopic Atlas of Anatomy. Edited by David Waterston, M.A., M.D., F.R.C.S.E., F.R.S.E. Section IV. Perineum, Pelvis, Lumbar Region, Thorax, Back, and Upper Limb. Issued in Five Sections at the price of £1 5*s.* net each Section.

KARGER, S., Karlstrasse, 15, Berlin, N.W.

Beiträge zur Kenntniss der Rektumkarzinome nebst Bemerkungen zur Frühdiagnose. Von Dr. J. Boas, in Berlin. Price Pf.80.

Uber den Wiedererersatz der Funktion bei Erkrankungen des Gehirnes. Von Prof. Dr. G. Anton, Direktor der Klinik fur Nerven- und Geisteskranke in Halle a S. Price Pf. 80.

Psychotherapeutische Briefe. Von Prof. D. H. Oppenheim, Berlin. Price M.1.

Prognose der Tabes Dorsalis. Von Dr. E. von Malaisé, Assistenten der Poliklinik. Price M.1.

MEDICAL PUBLISHING CO., LIMITED, London.

The Operative Treatment of Fractures. By W. Arbuthnot Lane, M.S., F.R.C.S., Surgeon to Guy's Hospital, and Senior Surgeon to the Hospital for Sick Children, Great Ormond-street. Price not stated.

METHUEN AND CO., 36, Essex-street, Strand, London, W.C.

Lincoln: a Historical and Topographical Account of the City. Written by E. Mansel Sympson. Illustrated by E. H. New. (Ancient Cities. General Editor, B. C. A. Windle, F.R.S., F.S.A.). Price 4*s.* 6*d.* net.

NUTT, DAVID, 57-59, Long Acre, London, W.C.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By the late A. Milnes Marshall, M.D., D.Sc., M.A., F.R.S., formerly Fellow of St. John's College, Cambridge, Professor in the Victoria University, Beyer Professor of Zoology in Owens College, Manchester. Edited by F. W. Gamble, D.Sc., Assistant Lecturer and Demonstrator in Zoology, University of Manchester. Ninth edition, revised and illustrated. Price 5*s.*

P. BLAKISTON'S SON AND CO., 1012, Walnut-street, Philadelphia.

The World's Anatomists. Concise Biographies of Anatomic Masters, from 300 B.C. to the Present Time, Whose Names have Adorned the Literature of the Medical Profession. By G. W. H. Kemper, M.D., Professor of the History of Medicine in the Medical College of Indiana, Indianapolis, Ind. Revised and enlarged from the original serial publication in the Medical Book News. With 11 illustrations, nine of which are portraits. Price not stated.

RUDEVAL, F. R. DE, 4, Rue Antoine Dubois (VI^e^), Paris.

Précis de Diagnostic, Chimique, Microscopique et Parasitologique. Par les Docteurs Jules Guiart, Docteur ès Sciences, Professeur à la Faculté de Médecine de Paris, Secrétaire général de la Société Zoologique de France, et L. Grimbert, Docteur ès Sciences, Professeur agrégé à l'Ecole supérieure de Pharmacie de Paris, Pharmacien en chef à l'Hôpital Cochin. Price Fr.15.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

AIKEN, A., L.R.C.P. & S.Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Irvinestown District of the county of Fermanagh.

BURLAND, CHARLES, L.R.C.P. & S.Edin., has been appointed Medical Officer to the Board of Trade for the Port of Glasgow.

DAVIS, F. H., L.F.P.S.Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Dawley District of the county of Salop.

ENGLAND G. F., M.D. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Winchester District of the county of Hants.

FAIRBANK, H. A. T., M.S. Lond., F.R.C.S. Eng., has been appointed Orthopædic Surgeon to Charing Cross Hospital.

FLETCHER, J. R., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Sherston District of the county of Wilts.

HOWARD-JONES, J., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Worthen District of the county of Salop.

LAMBERT, FREDERICK SAMUEL, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the Lincoln Post Office.

LEWIS, CYRIL, M.D., C.M. Edin., has been appointed Honorary Assistant Physician to the Cardiff Infirmary.

MIDDLEMISS, W. J. F., L.D.S. Edin., has been appointed Dental Surgeon to the Troops in Ireland.

MILNE, LESLIE J., M.D., C.M. Aberd., has been appointed Certifying Factory Surgeon for Mirfield, Ravensthorpe, and Thornhill; and Medical Officer of Health of Mirfield and Medical Officer to the Crossley Infectious Hospital.

PATERSON, DONALD ROSE, M.D., C.M. Edin., M.R.C.P. Lond., has been appointed Honorary Surgeon to the Ear, Throat, and Nose Department at the Cardiff Infirmary.

PEARCE, ARTHUR, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health of the Salcombe (Devon) Urban District.

RIDOUT, C. A. SCOTT, M.S., M.B. Lond., F.R.C.S. Eng., has been appointed Honorary Pathologist to the Royal Portsmouth Hospital.

RUDGE, FREDERICK HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Resident Obstetric Officer at the Bristol Royal Infirmary.

SHEPPARD, ARTHUR LEWIN, M.B., B.S. Durh., has been appointed House Physician at the Bristol Royal Infirmary.

SHORT, ARTHUR RENDLE, M.D., B.S., B.Sc. Lond., has been appointed Senior Resident Medical Officer at the Bristol Royal Infirmary.

SMITH, L. SHINGLETON, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon at the Bristol Royal Infirmary.

WRIGHT, A. J., L.R.C.P. Lond., M.R.C.S., has been appointed Casualty Officer at the Bristol Royal Infirmary.

WYAND, E. H., L.D.S. Eng., has been appointed Dental Surgeon to the Troops at Aldershot.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN (NEW) POORHOUSE.—Resident Assistant Medical Officer. Salary £80 per annum, with board, attendance, &c.

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

BRIDGWATER HOSPITAL.—House Surgeon. Salary £80 a year, with board and residence.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £90 a year, with board and lodging.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CARNEGIE DUNFERMLINE TRUSTEES.—Assistant Medical Officer (female). Salary £200 per annum.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Honorary Registrar.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £90 per annum, with residence and maintenance.

COMMITTEE FOR THE STUDY OF SPECIAL DISEASES.—Research Scholarship of £100 per annum for six months.

COTFORD, TAUNTON, SOMERSET AND BATH ASYLUM.—Assistant Medical Officer, unmarried. Salary £140 per annum, increasing to £160, with apartments, board, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon.

EDMONTON URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £350, payable monthly.

GARLANDS, CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM.—Junior Assistant Medical Officer. Salary £130 per annum, with board and lodging.

GARTLOCH ASYLUM, Gartcosh.—Assistant Medical Officer. Salary £125, with board and lodging.

HOSPITAL FOR WOMEN, Soho square, W.—House Physician for six months. Salary £30.

HULL ROYAL INFIRMARY.—Honorary Assistant Ophthalmic Surgeon.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

KNIGHTON UNION.—District Medical Officer. Salary £40 per annum.

LEITH HOSPITAL.—Medical Registrar.

LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon. Salary £100 per annum, with board and lodging.

LIVERPOOL, ROYAL SOUTHERN HOSPITAL.—Junior House Surgeon. Salary 60 guineas per annum.

LIVERPOOL STANLEY HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and washing.

LONDON LOCK HOSPITAL.—House Surgeon to the Female Hospital. Salary £30 per annum, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100 for the first year, with an increase of £10 the second, with board and residence.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—House Surgeon. Salary £100, with board and residence. Also Assistant House Surgeon and Anæsthetist. Salary £60, with board and residence.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer for the In-patient Department at Bowdon, Cheshire. Salary £100 per annum, with board, apartments, washing, and railway contract.

MANCHESTER MONSALL FEVER HOSPITAL.—Fourth Medical Assistant. Salary £100 per annum, with board, lodging, and washing.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Resident Surgeon, as Junior and Senior for six months each. Salary at rate of £80 and £120 per annum, with board and residence.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Honorary Medical Officer for X Ray and Electro-Therapeutical Department.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon, both for six months. Salary at rate of 50 guineas a year, with board and residence.

PAISLEY, ROYAL ALEXANDRA INFIRMARY, Barbour Park.—House Surgeon. Salary £40, with bed and board.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

REIGATE TOWN COUNCIL AND RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £200 per annum.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Four Examiners in Anatomy and Four Examiners in Physiology.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—House Surgeon, non-resident. Honorarium at rate of £40 per annum. Also Clinical Assistants.

ROYAL EYE HOSPITAL, Southwark, S.E.—House Surgeon for six months, renewable. Salary 50 guineas per annum, with board and residence. Also Clinical Assistants.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—House Physician and Casualty House Surgeon, both for six months. Board, &c., provided. Also Resident House Physician and Resident House Surgeon (Female). Board, &c., provided. Also Assistant to the Clinical Pathologist. Salary £50 per annum. Also Assistant Anæsthetist. Both females.

ROYAL HALIFAX INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with apartments, board, and washing.

ROYAL PORTSMOUTH HOSPITAL, Portsmouth.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary at rate of £50 per annum first six months, £75 per annum after, with board, apartments, washing, and attendance.

TOTTENHAM HOSPITAL, London, N.—House Surgeon, House Physician, Casualty Officer, all for six months. Salaries at rates of £90, £60, and £40 per annum respectively, with board, residence, and laundry.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM, St. Ann's Heath.—Junior Assistant Medical Officer. Salary £175 per annum, with board, lodging, washing, &c.

WEST RIDING OF YORKSHIRE.—Assistant to County Medical Officer. Salary £250 per annum, rising to £400.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Uppingham, in the county of Rutland.

Births, Marriages, and Deaths.

BIRTHS.

ALCOCK.—On March 31st, at Norfolk Mansions, Battersea Park, London, S.W., the wife of N. H. Alcock, M.D., of a daughter.

CARRUTHERS.—On March 29th, at Central-hill, Norwood, the wife of S. W. Carruthers, M.D., of a daughter.

LETCHWORTH.—On April 1st, at Fairlight, 156, Parkwood-road, Bournemouth, E., the wife of T. W. Letchworth, B.A., M.B., M.R.C.S., L.R.C.P., of a son.

MARRIAGE.

KAY—LAVER.—At St. Martin's Church, Scarborough, on March 20th, by the Rev. A. F. Mitchell, vicar of St. Augustine's, Sheffield, and the Ven. Archdeacon Mackerness, vicar of St. Martin's, Scarborough, Walter Smith Kay, M.D., Medical Superintendent of the South Yorkshire Asylum, Wadsley, Sheffield, to Elizabeth Mary, widow of Arthur H. Laver, M.D., of Sheffield.

DEATHS.

BEALE.—On March 28th, Lionel S. Beale, M.B., F.R.S., F.R.C.P., Emeritus Professor of Medicine in King's College, London, Consulting Physician to King's College Hospital, aged 78 years.

BUCHANAN.—On March 22nd, at Sowerby, Thirsk, John Hamilton Buchanan, M.D., J.P., aged 73 years.

HARTFORD.—On March 30th, at Christchurch, Henry William Hartford, L.R.C.P. & L.R.C.S., aged 52 years.

MARRIOTT.—On March 20th, at Swaffham, Norfolk, Robert Buchanan Marriott, M.R.C.S., L.S.A., L.M., aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"HOMELY CURES."

WE extract the following prescriptions which appeared in a recent number of the *Evening News* under the above title:—

Chronic bronchitis.—A teaspoonful of carbonate of soda in a glass of warm milk before going to bed. Every night until relieved.

Whooping-cough.—Procure a large pot jar; into it place two-pennyworth of tar. When the little ones are in bed put a red-hot poker into the tar and leave it. The children inhale the fumes of the tar, which is very beneficial and in most cases cures. This should be done twice a day in bad cases; for other slight coughs and colds once a day is quite sufficient.

It is to be hoped that whoever tries the first prescription will not be able to obtain carbonate of soda or, if so, we tremble for the consequences. The average druggist, however, if asked for "carbonate of soda" always supplies the bicarbonate, thereby, we suppose, rendering himself liable to prosecution under the Sale of Food and Drugs Act and also preventing his customer from becoming very ill. In prescription No. 2 we carried out the somewhat hazy direction as accurately as possible. We sent to an oilshop for "two pennyworth of tar" and received about a pint of gas tar. On inserting a red-hot poker into this there arose dense suffocating brownish fumes. Contrary to our expectation these did not catch fire, although they were easily inflammable, but we should have been sorry to be in a small room with the fuming tar for any length of time. The prescription does not say that the tar is to be in the room with the "little ones" but it evidently implies that it should be so, for they are said to inhale the fumes. We certainly do not think that such a prescription should be given broadcast for ignorant persons to make use of.

IS BARLEY WATER A SUITABLE FOOD FOR INFANTS?

To the Editors of THE LANCET.

SIRS,—In reading the letters of "Curia" and "M.R.C.S., L.R.C.P." on the subject of barley water as a diluent for milk in the feeding of infants, the thought must strike those who devote attention to the chemical composition of the agents they use in the treatment of disease that barley water is very much overestimated as a medium for disintegrating the curd formed by the casein of cow's milk. The following represents the average percentage composition of barley water as prepared according to the directions laid down in text-books on the feeding of infants:—

Carbohydrates...	0·375
Proteids	0·028
Fat	0·025
Ash	0·021
Water...	99·551

This gives about 43·6 grains of solids to the pint; thus it will be seen that the amount of starch present in the volume of barley water used in the feeding of an infant under six months would be an infinitesimal quantity. The influence which such a proportion would have in preventing the coagulation of milk is in reality a negligible factor, as good results may be obtained by diluting milk with boiled water to which a little sugar has been added. The above percentages represent the result of six different analyses; besides the analysis careful observations were made in vitro to ascertain the diastasic action of barley water. In each instance the result was negative. This is not surprising when one considers that in the preparation of pearl barley the endosperm and scutellar epithelium are removed, hence the reason that pearl barley has a lower proteid value than the ordinary grain. The researches of Brown and Morris in connexion with diastasic ferments show that in barley this active enzyme is present most largely in the endosperm, scutellar epithelium, and embryonic tissues, the ratio being as follows: when the endosperm is half developed 4·4, two-thirds developed 7·7, and fully matured 9·7. Space will not permit of dealing with this important pharmacological and therapeutic subject. Suffice it to say that barley water as commonly prepared is devoid of any inherent hydrolysing influence upon starch. When we come to consider the work of such authorities as are quoted by "M.R.C.S., L.R.C.P.," it must not be forgotten that the presence of starch-transforming enzymes has been demonstrated in almost every tissue of the body. Nasse discovered a diastasic ferment in the juice of muscles; Halliburton corroborates this discovery. Foster shows that an amylolytic ferment exists in pericardial, pleural, and peritoneal fluids. Bial has discovered starch-hydrolysing agents in the blood. In the light of recent physiology the question arises as to whether the ptyalin which Schaffer declares to be present in the saliva of the newly born is derived from the parotid, submaxillary, and sublingual glands, or directly from the serum of the blood. This subject is one that requires further physiological investigation. One point upon which there is but very little doubt in connexion with the feeding of infants is that breast-fed infants show a greater degree of immunity against zymotic and other influences than those artificially fed. This is probably due to the fact that the infantile economy is deficient in those hydrolysing ferments which have been shown by Gautier to act as antitoxins. These ferments are supplied by the maternal host during the period of vicarious existence as well as during lactation. It has been demonstrated that human milk contains active amylolytic ferments together with others possessing antitoxic properties. In the artificial feeding of infants the idea should be to imitate nature as far as possible and supply those elements of which there is a deficiency in the infantile tissues. A well-known writer on the subject of the feeding of infants declares that "Fortunate is the babe that in our advanced civilisation and city living can draw from the breast of a robust mother an abundant supply of pure, health-giving, tissue-forming food." As it is not always possible for an infant to depend upon its maternal host for its food-supply it is essential on that account to resort to the milk of the bovine order. Cow's milk, differing materially from human in its chemical composition, requires modification before it can be used as an agent for supplying the necessary elements essential for tissue building. The great obstacle to its use complained of by "Curia" and "M.R.C.S., L.R.C.P." is its forming a firm coagulum or curd. This is due to a lack of the enzymes which are present in human milk; but this is not the only cause; the breast-fed infant exerts a greater degree of suction in abstracting from the mammary gland its food-supply than is the case with the bottle-fed child, thereby stimulating a more profuse flow of saliva. Thus the mother's milk is automatically diluted and a greater percentage of the natural ferments of the blood introduced into the stomach. In order to overcome the deficiency of natural secretions which aid the digestion of milk it is advisable to introduce into cow's milk such ingredients as are most likely to bring about the desired result. This is most economically done by the use of vegetable enzymes. Reynolds Green in his work on "Soluble Ferments" shows that in the germination of seeds there are developed not only starch but fat and proteid hydrolysing enzymes. Carefully malted barley has been found to be the source from which such ferments can be most easily obtained. It has been proved by Brown and Herron that the action of diastase obtained from barley malt is identical with that of the ptyalin in saliva and the amylopsin of the pancreas. It may reasonably be assumed that the use of a carefully prepared malt, where the entire grain is utilised and the enzymes retained, will form a better agent for modifying milk than barley water. A freshly prepared decoction of malt would give more satisfactory results, or more convenient still a trustworthy diastasic and proteolytic malt extract could be resorted to, especially if it contains a fat-hydrolysing enzyme as well as those which produce amylolysis and proteolysis. The following formula will be found to answer the above requirements:—

Fresh cow's milk	½ pint.
Extract of malt	1 teaspoonful.

Pour the milk into a bottle, then plug with cotton-wool, place the bottle in a pan of cold water and heat to near the boiling point. Remove from the fire and allow to stand aside for 10 or 15 minutes, then add the malt extract, mixing well. Prepared as directed the milk is ready for use diluted in the ordinary way with boiled water; if desired a little aqua calcis may be added. It will be found that by this process the casein is prevented from curdling and the caseinogen modified, so that when introduced into the stomach fine flocculi are formed which are easily acted on by the gastric secretions, whilst the fat of the milk is rendered more easily assimilated on account of the hydrolysing influence the malt has on it. A trial of malted milk prepared in accordance with this formula ought to give good clinical results, stimulating as it does the functional activity and metabolism of the infant. Pavy, dealing with the physiology of carbohydrates, says: "Normally the infant secretes little or no diastase during the period of suckling and this condition is common to all young animals. This tendency is increased by resort to artificial feeding. With an infant supplied with mother's milk nature provides sufficient diastase to dispose of its glycogen by transmutation into diffusible form as maltose, which is applied both to the production of proteid and transformed into fat." These few suggestions may cause some further research to be carried out in connexion with the feeding of infants.

I am, Sirs, yours faithfully,

March 31st, 1906 "CERES."

AN INCONSEQUENT SEQUENCE.

WE have received the following from a lady who modestly suggests that "if written a little more learnedly" it might be of use for publication in our columns:—

DANGERS OF THE LEAD PENCIL.

It is not generally known that the lead of a pencil has poisonous properties. As a matter of fact, plumbago, or as it is usually misnamed blacklead, may produce somewhat the same effects as lead itself when introduced into the human system.

A friend of the writer's has just experienced the truth of this in a most unpleasant fashion. Putting his hand hastily into his pocket one day he forced the point of a pencil, which happened to be standing upright in convenient readiness for the operation, deep into his finger. Next day the hand showed all the symptoms of blood poisoning and had its owner not taken prompt measures serious consequences might have ensued.

In continental schools the pupils are strictly admonished not to put pencils in their mouths, not only because it is an unlovely habit but that it may prove an injurious one also.

A little care should never be grudged to prevent accidents, and it would be well to bear in mind that the hitherto unsuspected pencil should be handled with some discretion.

We hasten to assure our correspondent that plumbago, which is allotropic carbon, cannot possibly produce the same effects as lead itself when introduced into the system. The "blood poisoning" from which her friend suffered had nothing to do with the plumbago of which the pencil was made, and the same results would probably have followed a prick with a pin or a splinter of wood if received under the same conditions as the wound from the pencil. As to children and pencils, they are forbidden to suck them, not on account of any deleterious quality in the plumbago itself, but on account of the danger of the pencil transferring infection from one mouth to another when pencils are distributed indiscriminately. A little knowledge has made our correspondent unhappy.

INACCURATE QUOTATION.

IN THE LANCET of March 3rd, 1906, upon p. 595, under the heading, "A Practical Experience with Adrenalin as a Cardiac and Vaso-motor Stimulant," we published an interesting article by Dr. H. O. Butler, who narrated his experience of adrenalin, stating it to be a product manufactured by Messrs. Parke, Davis, and Co., in a case where a child appeared moribund from measles and pneumonia. On March 15th the article was substantially quoted in the "Therapist," the title having been altered to "Adrenal-chloride as a Cardiac and Vaso-motor Stimulant," while the fact that the substance used was stated to be manufactured by Messrs. Parke, Davis, and Co. was suppressed and the word "adrenalin" was altered to "adrenal" almost throughout the article. We do not consider that the "Therapist" is to be complimented in the matter. Messrs. A. and M. Zimmermann, the proprietors of that paper, manufacture a product called "adrenal-chloride" and the article as altered for appearance in the columns of the "Therapist" wears the appearance of a valuable piece of evidence in favour of adrenal-chloride. The attention of Messrs. A. and M. Zimmermann having been called to the matter we received a letter from that firm pointing out that "in accordance with the nomenclature of Armand Gautier ..... the isolated crystallised compound of the suprarenal capsule should therefore be termed 'adrenal.'" We think that this information, whatever its scientific or etymological value, rather misses the point, which is that in THE LANCET a medical man has attributed certain favourable results to a definite substance styled by him and by its manufacturers "adrenalin," whereas in the "Therapist" the article has been altered for quotation so that these results appear to have been obtained by another definite substance. The comparative merits of the two substances are not in question, but one happened to be used in the treatment of the patient while the other was not so used.

FEES FROM CORONERS.

To the Editors of THE LANCET.

SIRS,—I was recently called to a case of sudden death by a messenger who stated to me that the local policeman had sent him for me. On arrival at the house I found an old man, whom I had attended some months before for a suppurating axillary gland, dead. The body showed no marks of violence and I was informed that the man had been seen to fall as he walked and that the observer had run to him and found him dead. The policeman asked me to give him "a line" to take to the coroner and he showed me a form of questions provided for such cases which he (the policeman) had to fill up with answers. Among these questions were some about previous illnesses and medical man's attendance. There was obviously no reason to suspect any foul play and I was anxious to save the friends from the worry of an inquest, as I had another very critical case in the house at the time. I therefore wrote down on a sheet of paper that I had seen the dead body, found no marks of violence, and felt sure that death had resulted from natural causes, signing my name at the foot. The next day the policeman called on me and informed me that there was to be no inquest and handed me 5*s.* from the coroner, asking me to sign a form of receipt "for information given." I hesitated to accept the cash till told by the policeman that recently a neighbouring medical man in a similar case had been so paid by the coroner. It was an entirely new experience to me and I shall be glad to know if the coroner has acted rightly. I had always thought that the coroner could only pay 21*s.* for evidence given at an inquest. At any rate, the 5*s.* was quite inadequate as a fee in this case, seeing that I had to go two miles without any breakfast at 8 A.M. and wasted about an hour and a half. As the coroner apparently accepts some liability, seeing that he has offered a fee, have I any claim on him for an adequate fee?

I am, Sirs, yours faithfully,

April 1st, 1906. COUNTRY DOCTOR.

*** Our correspondent, in our opinion, acted quite rightly in giving the information asked for and in accepting the proffered fee, and he appears to have no ground for complaint against the coroner. As we understand the facts, there is no question of liability on the part of relatives and he was summoned by a policeman to see a man who had fallen in the highway and was believed to be dead. Whether the police would admit liability to the medical man we do not pretend to say, but clearly they do right in seeking medical advice at once rather than in deciding for themselves whether a person found in the condition described is actually dead; and it is equally plain that a medical man should not be expected to give such an attendance gratis. This, however, has nothing to do with the coroner, who in this instance seems to have adopted a businesslike method of obtaining information from the person best qualified to give it in order to guide him as to whether an inquest should be held or not. Further, he has followed the opinion given and has paid for it. The sum of 5*s.*, regarded as payment "for information given" in the manner described, is a fee upon a larger scale than 21*s.* earned by attending as a witness at an inquest when the time occupied in waiting to give evidence and the other circumstances of so doing are taken into consideration. It is desirable that the payment of a fee for information given to the coroner should be provided for whenever the law relating to inquests is remodelled. At present the information is usually expected to be given gratis and the practice in this instance is none the less to be commended because it is not universal.—ED. L.

QUACKS' ADVERTISEMENTS.

THE American quack named Macaura, to whom we alluded recently as having selected the city of Newcastle-on-Tyne for his base of operation, continues to advertise profusely in the local papers the story of his exploits. A correspondent sends us a copy of the *Newcastle Evening Chronicle*, dated Saturday, March 31st, 1906, which contains a column of obviously mendacious rubbish about Macaura's inventions, and asks us: "Is or is not this a most blameworthy action on the part of a paper claiming a high reputation for scrupulous journalism?" It certainly seems to us very regrettable that the *Newcastle Evening Chronicle* should take Macaura's money and publish his statements, even though the *Newcastle Evening Chronicle* in so doing only imitates other and no less reputable journals. The licence enjoyed by quacks in the existing conditions of the law is deplorable and we trust that the near future may see an organised attempt on the part of the medical profession to procure amended legislation in the matter. So long as quacks can vaunt their medical pretensions in the most unscrupulous way without fear of penalty, if only they do not pretend to be registered practitioners, so long will the public be practically helpless against their machinations; and it goes without saying that the profuse advertisement, paid or unpaid, given by newspapers to the exploits of charlatans enormously increases the mischief.

"CANCER CURES."

IN our issue of Oct. 7th, 1905, p. 1046, we commented upon a quack remedy for cancer called the "Asiab Cancer Cure," of which we gave an analysis. The active ingredient of the cure was tartar emetic. We now learn from the *Cape Times* of March 8th that the proprietor of the nostrum, Mrs. Anna Elizabeth van Niekerk, was prosecuted under Section 35 of Act 34 of 1891, viz., the Medical and Pharmacy Act, for having practised as a medical practitioner. The jury found Mrs. van Niekerk guilty and she was sentenced to pay a fine of £20 or to undergo two months' imprisonment.

A NEW SUTURE FOR THE ABDOMINAL WALL.

IN the present issue of THE LANCET, upon p. 937, we print a note upon a new form of suture for use in the abdominal wall which has been introduced by Mr. J. B. Pike of Loughborough. It is an attempt to combine the advantages of suturing in layers with the benefits of the single stitch penetrating all the layers of the abdominal wall. The essential point in the stitch is that it passes from one side of the incision to the other as it traverses the different layers. Since it comes to the surface it can be removed completely and so no buried suture remains. Many surgeons appear to meet with much trouble from buried sutures, but other surgeons never, or very rarely, have any trouble with them. It is not improbable that excessive tightness in deep sutures may be the chief cause for these giving rise to trouble, always supposing that no sepsis is present. Mr. Pike's suture is ingenious, though we think the method has been already described. We can well imagine that it might prove useful in some circumstances.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at noon by Steward's Instruments.)

THE LANCET Office, April 5th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 30	30·25	N.	...	60	49	34	35	39	Overcast
,, 31	30·26	N.W.	...	71	52	38	41	45	Overcast
April 1	30·45	W.	...	65	51	45	44	47	Overcast
,, 2	30·50	E.	...	67	47	38	38	41	Fine
,, 3	30·40	E.	...	107	59	38	41	44	Fine
,, 4	30·22	S.E.	...	107	56	41	41	47	Fine
,, 5	29·84	S.	...	106	60	43	43	49	Fine

During the week marked copies of the following newspapers have been received:—*Hawick News, Standard, Surrey Comet, Surrey Times, Worcester Chronicle, Surrey Advertiser, Morning Advertiser, Tribune, Bradford Observer Budget, Islington Gazette, Cardiff Weekly Mail, Stirling Journal, Times, Daily Telegraph, Daily News, World, Longton Times, Wolverhampton Midland Express, Wigan Observer, Westminster Gazette, Hampshire Advertiser, Southampton Echo, Newcastle Chronicle, Herts Mercury, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (11th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (12th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (14th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (9th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Clinical Evening. Cases, &c., will be shown by Dr. Poynton, Dr. F. P. Weber, Dr. J. Calvert, Dr. O. K. Williamson, Dr. H. O. Carson, Mr. J. Berry, Mr. C. G. Watson, Mr. C. B. Keetley, Mr. M. Smith, and Mr. J. L. Thomas.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Exhibition of Specimens by Dr. A. E. Giles, Dr. F. Edge, Mr. F. B. Jessett, and Dr. Macnaughton-Jones.

TUESDAY (10th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Captain R. McCarrison, I.M.S.: Observations on Endemic Goitre in the Chitral and Gilgit Valleys (with epidiascope demonstration).

SOCIETY FOR THE STUDY OF INEBRIETY (Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W.).—3.30 P.M. Council Meeting. 4 P.M. Annual Meeting. Election of Officers and Council for the ensuing year. Discussion on the Alcoholic Craving (opened by Dr. H. Campbell).

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Paper:—Mr. J. L. Baker: Fermentation.

WEDNESDAY (11th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Discussion on Syphilis (opened by Mr. J. Hutchinson): Syphilis considered in connexion with—(1) Mental Disease, Dr. Savage; (2) The Nervous System, Dr. P. Stewart; (3) The Viscera, Dr. H. White.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. E. Dore: Clinique. (Skin.) 5.15 P.M. Lecture:—Mr. T. Walker: Rectal Examination in Urinary Disease.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2.15 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations.

TUESDAY (10th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Taylor: Clinique. (Medical.) 5.15 P.M. Lecture:—Dr. D. Grant: The Dangerous Sequelæ of Suppuration in the Middle Ear (Treatment).

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2.15 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations.

WEDNESDAY (11th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Pardoe: Clinique. (Surgical.) 5.15 P.M. Lecture:—Mr. J. Cantlie: How to Recognise and Treat Abscess of the Liver.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12.15 P.M. Mr. Baldwin: Practical Surgery. 2.15 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. C. Nourse: Nasal Accessory Sinuses.

THURSDAY (12th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2.15 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations.

SATURDAY (14th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2.15 P.M. Medical and Surgical Clinics. 2.30 P.M. Operations.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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Letters, each with enclosure, are also acknowledged from—

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